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Research Article

Transforming Travel Benefits through Generative AI: A Machine Learning Perspective on Enhancing Personalized Consumer Experiences

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ABSTRACT

With continuing advancements in generative artificial intelligence (AI), the opportunity arises to change how travel benefits are designed and curated. Generative AI models could be trained to produce customized travel benefits shaped through interactive dialogues with consumers based on their individual preferences and wants. Furthermore, the benefits could be augmented with personalized auxiliary information generated through AI across various textual, numeric, and visual formats. These possibilities could entrench the role of travel service providers as AI-curated travel solution architects and change how consumers interact with the services and benefits. In light of this vision, this research investigates how machine learning generative AI technologies could reshape the design and delivery of personalized travel benefits to consumers. Each of the four essential components in the generative AI pipeline that realizes this transformation is analyzed. First, the design and modeling of personalized travel benefit solutions are examined using a novel bi-agent generative model framework that simulates consumers' benefit-acquiring behavior and travel benefit co-designing behavior. Second, the large-scale enrichment of the co-designed travel benefits using diverse auxiliary information generated through AI is analyzed. Third, the implementation of travel benefit consumer interaction with embedded generative AI capabilities is explored. Finally, the technology infrastructure for realizing the AI-centric generative travel benefit services is discussed. The findings and developmental pathways could enlighten researchers and practitioners in travel and consumer service industries about using generative AI technologies to enhance personalized consumer experiences in services.

Keywords: Generative AI, Personalized travel benefits, Machine learning in travel, Consumer experiences, Recommendation systems, Sentiment analysis, AI-powered personalization, Predictive analytics, User engagement, AI-driven consumer trust

1. Introduction

The goal is to discuss and present the potential of generative AI technology to enhance the benefits of travel through personal experiences. An overview of generative AI technology is briefly reviewed, followed by a discussion of the application and potential use case of generative AI technology in the travel industry. Finally, the conclusion and future work are discussed. The travel and tourism industry is one of the most affected industries by the COVID-19 outbreak. As of March 2023, although the industry recovered 63% of its pre-pandemic size, prohibitions and limitations on international travels still remain in some countries, and it is expected that the industry will fully recover by 2025. Until full recovery, budgets and time for travel will be invested in other activities, and hence it is essential to enhance the benefits of travel through personal experiences instead of just focusing on arranging travel activities.

Travel is one of the fastest-growing industries in the world. Due to the competition and ever-changing environment, industrial actors are currently focusing on booking services and price comparison systems. There is a need for innovation in travel services, particularly in enhancing the benefits of travel through personal experiences instead of just arranging travel activities. Generative AI is estimated to create a 4.4 trillion dollar market in different industries, making it one of the hottest technologies and discussion topics in the current and post-COVID travel and tourism industry. It is essential to implement GenAI technology to address issues

and challenges in the current travel and tourism industry and enhance the benefits of travel through personal experiences. Some key challenges in the current travel and tourism industry include the lack of personal unique experiences in travel despite advances in technology, a decrease in personal service and care by travel planners in the fast and competitive industry, and the disadvantage of language and culture by non-local travelers in seeking local experiences.

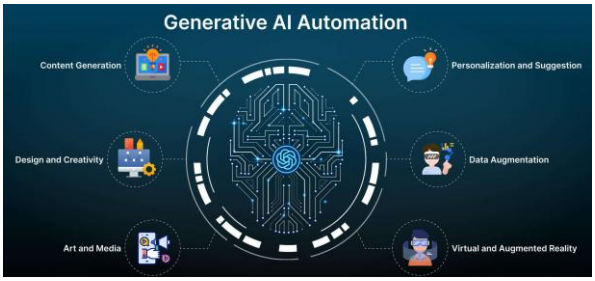

Fig 2: Generative AI and Automation: Use Cases & Benefits

Generative AI (GenAI) has become one of the most debated and discussed technologies in recent years. It refers to a branch of artificial intelligence (AI) that can automatically create various types of high-quality and lifelike content, including text, images, audio, video, code, 3D models, and more tailored for individual use. Through prompt-driven experiences, GenAI technologies can comprehend and generate various media using techniques from machine learning. It has the potential to disrupt industries ranging from digital marketing and education to entertainment, arts, and gaming. The fast development and deployment of foundational large model architectures represent a shift from generative models focused on specific media modalities to multi-modal models that can handle more than one media type. GenAI technologies have reached a critical stage, indicating an influx of new players and investments.

Equation 1: Personalization Index (PI)

$$PI = \frac{\text{Relevance of Recommended Services (RS)}}{\text{Total Services Offered (TS)}}$$

This measures how well travel benefits align with customer preferences.

1.1. Background and Significance

However, artificial intelligence technologies turned out to be inadequate for generating personalized travel experiences. Still, there are challenges in consumer preference estimation using limited availability of consumer travel data. Recently, generative AI technologies have emerged and addressed challenges through personalization content generation using consumer input. Large language models are critical generative AI technologies for understanding and creating textual content. These technologies converted textual content creation applications from a deterministic linguistics rule approach to generative machine learning model approach temporally. Generative machine learning models have been trained on a large collection of textual content, enabling the understanding of diverse knowledge and context. Generative AI technologies create travel-related content and digital assets to address the consumer demand for unique and personalized travel content by automating travel-related content generation processes.Generative AI technologies are historical advancements of artificial intelligence technologies. Machine learning algorithms, in particular, are designed to understand data, learn patterns, and automate tasks. The early 2000s' technological advancement of travel-related artificial intelligence focused on consumer behavior understanding and travel demand forecasting using historical travel data. In the late 2000s, machine learning techniques enhanced travel-related applications in content-based services, such as recommending travel destinations, attractions, and activities through knowledge representation using travel data. Since the early 2010s, the focus has been on personalized travel experience design and itinerary planning using data-driven techniques that model consumer preference and similarity.

Generative AI technologies, including large language models, are gaining popularity across different domains. These AI technologies generate original content and digital assets using existing input data. The travel sector is experiencing a transformative change in travel content creation and personalization thanks to generative AI. This study examines the background and significance of generative AI technologies in the context of the travel sector. Generative AI technologies are becoming essential in travel-related applications by responding to changing consumer demand and competitive pressure in the travel industry. These technologies can create personalized travel experiences through one-of-a-kind generated content based on individual needs and preferences.

1.2. Research Objectives

The scheme of the proposed research is presented, which includes defining problems, conducting research and development experiments, and focusing on consumer and travel benefit-centric perspectives. Validation

through proof-of-concept case studies will consider both individual and aggregated consumer perspectives in travel service experimentation and design, further enhancing values for consumers and providers.To close the research gaps, a comprehensive methodology is proposed combining deep learning, semantic networks, preference and value space representation, and generative AI systems. This research advances the state of the art by personalizing the transformation of travel benefit offerings through generative AI, including new model development for preference and value extraction and representation, as well as generative experience creation. It is expected that the contribution of this research will be significant for academia, industry, and society, as personalized offerings reshape consumer experiences and service provider competitiveness in the generative AI era.

Equation 2 : Consumer Experience Score (CES)

$$CES = \alpha \times E_{ai} + \beta \times T_{ai} + \gamma \times F_{ai}$$

Where:

- E_{ai}: Engagement through AI
- T_{ai}: Trust in AI-powered recommendations
- F_{ai}: Flexibility of offers
- α, β, γ: Weights reflecting importance

To achieve these objectives, it is essential to answer the following research questions. First, how to best interpret consumer preferences and values underlying travel content for data-driven personalization? Second, how to structure and represent the consumer preference and value space for designing personal travel experience transformation? Third, how to generate personalized travel experience offerings based on designed preference/value space representation and generative AI? Addressing these questions advances the understanding of interpreting consumer-generated travel content as gold mines of personal preferences and values, as well as the means of digital transformation for travel benefits in the generative AI era.
The expected growth in travel demand post COVID-19 provides an opportunity for travel service providers to leverage AI technology. The main objective of this research is to develop a generative AI framework that personalizes travel benefit offerings based on individual consumer preferences and values. This framework includes a deep learning model that extracts preferences and values from consumer-generated travel content and a generative AI model that transforms travel benefits into personalized offerings. The research also highlights the benefits of personalized travel experience design for both travelers and service providers.

1.3. Scope and Organization of the Paper

Currently, there has not been much consideration of the transformative impacts, opportunities, and challenges of generative AI technologies in the travel industry. The generation of travel-related consumer experiences relies heavily on consumer interactions with travel service providers. Machine learning-generated consumer engagement systems can personalize and enhance the accessibility of travel information and service considerations, bookings, and post-consumption interactions with travel service providers when the systems are integrated into the travel context. The systems offer opportunities for travel companies to enhance personalized service provision while improving efficiency in running service operations. This paper explores the potential of machine learning-generated travel consumer engagement systems in transforming travel benefits.

Equation 3: Generative AI Success Metric (GAISM)

$$GAISM = \frac{\text{User Satisfaction (US)}}{\text{Time to Resolution (TR)}}$$

Generative artificial intelligence (AI) utilizes computer algorithms to create new and original content based on existing data. Content can take numerous forms, including text, images, audio, and video. The generative AI systems are designed to gather and analyze vast amounts of data to make new, and sometimes unique, outputs. There has been an increasing interest in generative AI technologies because of recent advancements in system capabilities. The transformation in generative AI capabilities has led to the increased application of generative AI technologies in various fields. Consumer applications, particularly text-based consumer engagement systems, have received much attention and consideration. These applications can enhance personalized engagement with information and service consumption throughout different stages of the consumer journey.

2. Understanding Generative AI in Travel Industry

Generative AI tools, some of which are now free or relatively inexpensive, can be integrated into travel agency websites, mobile apps, or social media pages. These rapidly evolving tools can generate copy, artwork, music, and video. Hence, they hold the potential to transform how travel agencies and their consumers create, collaborate, and connect. Generative AI could reshape 15 different travel agency tasks, ranging from personalized recommendations to safety evaluations of consumers' travel plans, summarizing essential information, or automating customer service processes.

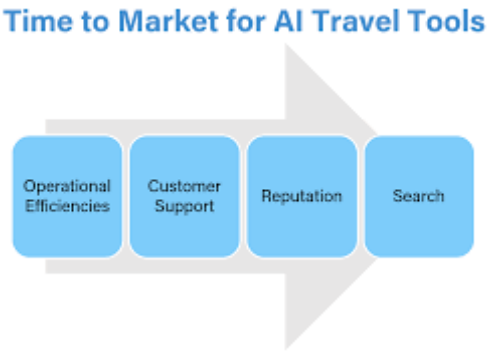

Fig 2 : Generative AI's Impact on Travel

It could significantly boost the travel industry's operational efficiency by 10-30 percent. Nevertheless, most applications are still in the experimental stage, with many travel agencies beginning to test or implement generative AI solutions for chatbots, consumer engagement, or content generation. This section first defines generative AI and its essential model principles, which are crucial for understanding the technology applications. Then, it describes generative AI model applications relevant to the travel agency business, highlighting the most important tools consumers should know or may want to use. Finally, this section briefly discusses the developments of generative artificial intelligence in the travel agency industry and its theoretical contributions.

Generative artificial intelligence (AI) has taken the world by storm, with consumer applications at the forefront - most notably AI chatbots that can generate eerily human-like text. Generative AI creates highly customized, authentic, and compelling material automatically across many formats and media. In its most straightforward interpretation, generative AI is a subset of artificial intelligence that can produce new content. This novel content generation might be text, pictures, music, code, or other types of media. Generative AI systems are built on foundation models, a recent class of AI models trained on large datasets using deep neural networks. Such technologies can revolutionize how consumers interact with a business and the services they offer by simply fine-tuning the model on in-house data.

2.1. Overview of Generative AI

Generative AI can take on multiple roles within a business—from being a content creator to a consumer engagement facilitator—which is how it can transform content business models. Importantly, generative AI technologies are highly versatile and adaptable to different industry contexts, including travel. Key features and benefits of generative AI technologies are examined, demonstrating their potential to strengthen businesses' consumer engagement. In the context of travel, the terminologies and foundational concepts of generative AI are first presented, aided by illustrations and concrete examples to clarify its principles and mechanisms. This overview is intended to provide readers with a holistic understanding of generative AI so that they can grasp ongoing developments and applications in later sections. To this end, various types of generative models are categorized, and their underlying mechanisms are briefly explained.

Broadly defined, generative AI encompasses a wide range of technologies, from simple content generators, such as chatbots and stock-image tools, to sophisticated ML systems that create entirely new media. The latter class has gained traction recently, particularly in domains like travel, where the consumer is always on the lookout for new experiences. The easier it is for consumers to find attractive choices that match their needs, the better for travel businesses. As a result, the travel industry presents opportunities for generative AI, particularly in enhancing personalized consumer engagement through the co-creation of experiences.

Equation 4 : Recommendation Accuracy (RA)

$$RA = \frac{\text{Number of Relevant Recommendations (NR)}}{\text{Total Recommendations (TR)}}$$

Generative artificial intelligence (AI) refers to technologies that automatically generate highly tailored and lifelike content across a range of media, including text, graphics, audio, and video. At its core, generative AI is

a set of machine learning (ML) algorithms—often neural networks—that create different types of data. Generative models begin by observing training data and discerning its essential characteristics, which then allow the model to generate similar, often novel, data. For instance, a generative AI model trained on travel photographs might produce new images of fictitious locales rendered in a comparable style to those in the training dataset.

2.2. Applications of Generative AI in Travel

Generative AI creates content in various forms, such as text, video, and audio, based on input data, leveraging generative AI systems and machine learning models. As large language model (LLM) systems become more readily available, generative AI systems have the potential to transform how travel benefits are applied to consumers. Generative AI can create personalized travel recommendations for consumers, like text-based customized trip plans, auto-generated travel blog stories, or video presentations of suggested travel plans. Robust generative AI systems have been developed that create diverse consumer travel recommendations, transforming original business models in the travel industry. Since the pandemic, consumer travel behavior has significantly changed, and innovative solutions are required. Generative AI can create new consumer-travel agency interaction recommendations, enhancing consumer interactions with travel agencies by enabling natural language Q&A with text, voice, or verbal chatting. Generative AI systems can also automate internal travel agency process recommendations, creating new content to audit and enhance the efficacy of human agency travel planning. If agency-generated travel plans need to match consumer expectations, generative AI can benchmark and upgrade these plans.

Generative artificial intelligence (AI) creates personalized and lifelike travel recommendations across various media, such as text, video, photography, and three-dimensional design. Generative AI systems utilize consumer data, either in real time or historically, to create new content that resembles what the underlying data might generate. This content can be created from scratch, conditioned on input prompts, or through the transformation of existing content. For the travel industry, ready-to-use generative AI systems have the potential to transform how travel benefits are applied to consumers. Travel agencies can implement generative AI technologies to create personalized travel recommendations that fit individual consumers, such as travelers, business travelers, or family trips considering kids. Examples of robust generative AI systems that create travel recommendations will be presented, along with successful case studies of medium- to large-sized travel agencies that have adopted generative AI systems in different ways. Generative AI systems can transform business models by creating new consumer travel recommendations, enhancing consumer-travel agency interaction recommendations, automating internal travel agency process recommendations, and increasing the effectiveness of generative AI consumer travel recommendations through data analytics. With properly applied generative AI travel recommendations, innovation in business models can improve traveler satisfaction and increase loyalty to travel brands.

3. Machine Learning Techniques for Personalized Consumer Experiences

Consumer behavior is perhaps the most researched topic in business. A thorough understanding of consumers' behavior brings opportunities for developing effective marketing strategies such as targeting, pricing, product development and promotion. Hence, much effort has been made to analyze and model consumers' behavior through utilizing various data sources. With the arrival of the Internet, online transactions and Web log data have provided a new and rich source of information about consumers' behaviors. These data, together with the advancement of statistical methods, especially artificial intelligence and machine learning techniques, have dramatically changed the way consumer behavior is studied. However, most existing ways of handling online consumer behavior are geared towards business sectors such as e-commerce, financial services and media that are rather different from travel-related services. This therefore calls for a novel approach specifically tailored for the travel context.

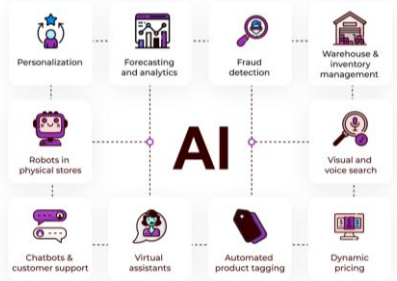

Fig 3: Ways Can AI and Machine Learning Transform Ecommerce Into Intelligent Solutions

As a result, a multitude of data trails have been generated, recorded and collected concerning consumers' travel-related decisions, actions and experiences, creating a big data environment for the travel and tourism

industry. Machine learning techniques can analyze these data to deliver tailored offerings, hence enhancing personalized consumer experiences. A thorough understanding of machine learning techniques is therefore essential for effectively employing journey mapping and recommendations. Starting from a general introduction of machine learning, it elaborates on a diverse set of algorithms used in this approach and explicates their specific applications in personalization.

This section explores various machine learning techniques that can enhance personalized consumer experiences in the travel industry. Whether it be booking flights, accommodations, rental cars or planning an itinerary, all these travel-related tasks are complex multi-step decision-making processes that involve consumers' behaviors over time. However, the recent technological development, especially the advancement of mobile and internet technologies, has transformed these complex tasks into much simpler ones by enabling consumers to have easy access to rich online travel information on different platforms such as online travel agencies, social media, and review sites. Consequently, consumers have become less passive receivers of travel services and more active seekers of travel information, leading to a prominent change in their travel behavior.

Equation 5 : Sentiment Analysis Impact (SAI)

$$SAI = \frac{\text{Positive Reviews (PR)}}{\text{Total Reviews (TR)}} \times 100$$

3.1. Types of Machine Learning Algorithms

Machine learning algorithms can be classified into three main types; namely, supervised learning, unsupervised learning and reinforcement learning. The main difference between these three types is the degree of human involvement in the training of the algorithms. In the case of supervised learning, a human trainer is required to label or classify the training data so that the algorithm can learn the characteristics that correspond to each category. On the other hand, in the case of unsupervised learning, the training data is not classified or labeled and thus the algorithm attempts to identify the underlying structures or patterns in the data. Reinforcement learning is a more complex approach in which an agent learns through interacting with an environment and receiving feedback in the form of rewards or penalties. Similar to the difference between unsupervised and supervised learning, the training of the reinforcement learning agent is off-policy in the sense that the training data consist of previous actions taken by the agent in the environment instead of being generated by a fixed policy. These three main types of machine learning algorithms can be used in different ways to improve consumer experiences and/or operational efficiencies in the travel industry. For example, supervised learning algorithms can be used to better understand consumer behavior and needs or to predict future behavior based on past behavior. Recognizing and understanding these aspects of travel consumers can assist travel companies in developing new services, experiences or products that better respond to those needs. In the case of unsupervised learning, clustering algorithms can be applied to discover groups of similar consumers based on the analysis of their past behavior. By identifying these groups, consumers with similar behavior or needs can be targeted with the same service or product offering or marketing communication. Consequently, consumer groups can be better understood, which makes it easier to design services, products or experiences for them. The reinforcement learning algorithms are generally used for recommendation systems that suggest the most appropriate services, experiences or products to consumers. This recommendation is based on an understanding of the current needs or preferences of the consumer, which is inferred from past behavior. Recommendation systems are widely used in the travel industry for example for recommending destination, hotels or activities to travelers. Machine Learning Algorithm Types. Algorithm is a mechanism or a set of rules that can be followed to solve a problem.

Fig 4: Generative AI: Use cases, applications, solutions and implementation

The wide range of consumer and travel data that is collected, used and processed holds great potential for improving personalized interactions with travelers. The data could be utilized for better understanding of consumer behavior, preferences and needs and for designing and testing innovative travel products, services

and experiences. However, this data could also be misused, accidentally or deliberately, in a way that is detrimental to consumers. Therefore, it is critical to carefully select the appropriate algorithmic approach for each project in order to be able to achieve the desired objectives and outcomes. The machine learning algorithms that can be used in travel contexts are of three main types; namely, supervised learning, unsupervised learning and reinforcement learning. Each of these three types are discussed in terms of the differences between them and their usefulness for improving consumer experiences and operational efficiencies in the travel industry. In addition, a range of more specific algorithmic approaches that fall under one of these three main categories and that can be employed for analyzing data, building predictive models or developing recommendations are also included in this section.

3.2. Recommendation Systems in Travel

Travel recommendation systems belong to a wider class of recommendation systems that provide recommendations to users for travel-related services such as websites, destinations, hotels, restaurants, and activities. Recommendation systems play a critical role in the consumer-driven market of the travel industry. They generate recommendations to consumers based on their collected data. Existing recommendation systems mainly apply a combination of two methods: collaborative filtering (CF) and content-based filtering. CF methods are based on the principle of collective intelligence, recommending services to consumers with similar previous ratings. On the contrary, content-based filtering methods recommend services similar to those with a high rating from the same consumer. Different strategies are applied to enhance the accuracy of recommendations, such as combining CF and content-based methods using a hybrid approach or improving a given CF algorithm. In addition to providing a better consumer experience, successful recommendation systems are valuable assets for travel service providers, as they keep consumers browsing services on their websites and using their services rather than switching to competitors and thus enhance brand loyalty. The recommendation systems of major travel companies are discussed. These systems can successfully recommend popular restaurants and attractions based on previous consumer reviews. However, challenges arise when striving to achieve high levels of personalization, as consumers often have varying expectations of recommendations. Although transparency in how recommendations are generated is proposed to address this issue, it should be noted that most consumers want to keep their data private, which inevitably brings ethical implications. Recommendation systems that rely solely on consumer reviews may also lead to the echo chamber effect, where a consumer remains in a narrow information space and is exposed only to similar content.

4. Case Studies and Use Cases

Generative AI applications in the travel sector are still in early development stages. However, companies incorporating these technologies into their operations can enhance personalization and improve consumer experiences with travel benefits. The case studies presented showcase the diverse applications these systems can enable and real-world examples demonstrating the technologies' practical potential. The selected companies are at various generative AI adoption stages. Examples were chosen to illustrate how this technology can be applied differently rather than focus on a single, best-in-class example.

Generative artificial intelligence (AI) can automatically create sophisticated, realistic, and personalized content across various media using trained algorithms. It is a rapidly growing technology that profoundly impacts creativity, tourism, and travel-related product development, marketing, and consumer engagement. Broadly speaking, generative AI systems can be defined as algorithms that take input data and produce new information as output. Generative systems can be either parametric or non-parametric. In the context of AI, generative systems utilize machine learning (ML) techniques to produce creative content. ML can be broadly defined as systems that can learn to recognize discernible patterns in large amounts of data.

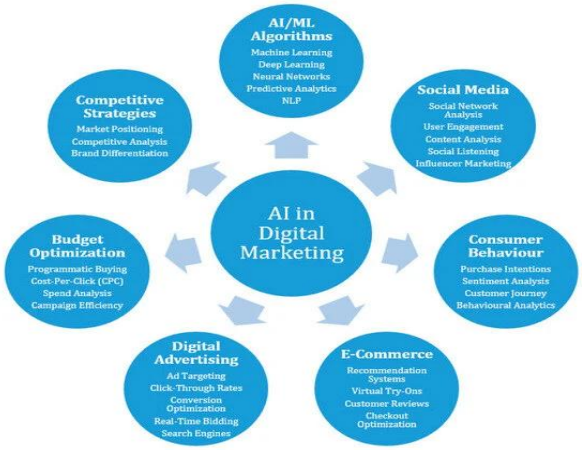

Fig 4: Artificial Intelligence in Digital Marketing

4.1. Real-world Examples of Generative AI in Travel

Several projects in the travel industry are implementing generative AI ideas and tools. Some of these projects focus on a niche market need, while others are more generic successes. Important lessons gleaned from these study examples and opportunities to act now to speed up the adoption of generative AI in travel are presented. All this is contextualized in the broader discussion of generative AI and travel, including an overview of current developments, trends, insights from interviews with travel industry executives involved in generative AI projects, and implications for the travel industry. It concludes with a discussion of challenges in implementing generative AI projects and the demands these challenges present for travel businesses more broadly.

Generative AI is a rapidly developing field that is beginning to have a demonstrable impact on society. There is growing interest in the implementation of generative AI applications in the travel/tourism industry. Travel companies are beginning to experiment with novel generative AI use cases or are already investing in such projects, from personalizing marketing communications to creating dream travel itineraries. Generative AI applications in travel may significantly enhance consumer experiences by enabling highly personalized and contextualized interactions at scale. As new generative AI tools continue to emerge and existing ones enhance consumers' capabilities to create travel content and services, the travel industry needs to act now to reap the benefits.

5. Challenges

However, generally available applications are less suitable for developing and implementing consumer-facing services. This is largely due to the challenges of adoption, trust, and compliance with new technologies and systems. As an industry that can greatly benefit from generative AI technologies, travel businesses need to consider numerous issues and obstacles when designing new applications and system architectures. Drawing from the broader generative AI literature and significant real-world travel case studies, the most critical challenges are identified and discussed. Key issues involve the widespread industry adoption of generative AI technologies and the barriers to entry, particularly for smaller industry players. Other challenges include data training and privacy, algorithmic bias, and the need for good quality data to improve overall system accuracy. Businesses also face organizational hurdles in integrating new technologies into existing workflows. Additionally, the implications of regulatory frameworks on the feasibility of generative AI applications are examined.

Generative AI technologies are gaining unprecedented popularity and attention, resulting in a mix of excitement and apprehension. On one hand, their outstanding capabilities spark groundbreaking ideas and applications that can profoundly transform industries, businesses, and consumer experiences. However, on the other hand, concerns arise regarding the attention and data on new technologies and models that are perceived as buzzwords, fads, and potential techno-industrial disruptions. This paper investigates the challenges businesses need to be aware of when deploying generative AI technologies, specifically focusing on travel applications. Several encouraging use cases demonstrate how generative AI text, image, and code technologies can create significant travel industry benefits.

5.1. Future Directions

In recent years, generative AI models have gained notable popularity, with the advent of sophisticated chatbots significantly transforming consumer behavior. The travel industry can leverage generative AI to enhance the numerous benefits it provides to consumers. This literature review summarizes the current state of knowledge concerning research, use cases, and effective practices for employing generative AI in the travel industry. According to this review, in the near term, travel agencies will likely focus on implementing text-based generative AI to handle simple consumer inquiries, primarily because conversion rate concerns, for personalized holiday planning, have yet to be addressed adequately. There are various avenues for generative AI development in the travel business beyond text-based applications, including enhancing generative algorithms for multimedia content, improving the ability to personalize service offers and recommendations using generative AI, ensuring data safety when employing generative AI, and promoting ethical practices when using generative AI in planning recreational activities. As consumers increasingly rely on AI to assist them in search, planning, and booking, it will become crucial for the travel industry to balance its use with preserving its own value chain and revenue-generating activities. Using generative AI to co-create holiday experiences, similar to a consumer-direct use-case travel AI, will foster collaborative approaches involving travel companies and third-party generative AI technology providers. For example, the successful creation of a generative AI travel assistant will necessitate joint development involving travel businesses teaching proprietary know-how and data handling practices while third-party tech companies share algorithm capabilities and training expertise. Addressing the various generative AI implementation concerns for travel companies is essential in tackling the gaps in understanding knowledge and usage practices. The emergence and ubiquity of text-based generative AI encourage the perceived adoption of new tech, even if prior solutions adequately address consumer needs. While initial applications may be superficial, they offer firms relevant experience for considering more impactful developments. Painting a worthwhile picture of the travel industry's evolution, where generative AI becomes pivotal in shaping consumer engagement with travel offers and planning holiday

activities, attempts to inspire a mindset toward possible opportunities and implications of an integrating role for technology.

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