# Generative AI and Aviation

## Finding crossroads for future implementation

## Generative AI and Aviation



The views expressed in this paper are based on the views and opinions of IATA Innovation Day audience representing the value chain, Social media audience, and with the input of IATA Generative AI working group. This document is designed as a thought piece about the risks and opportunities that Generative AI can bring to the Industry. Any strategy in implementing Generative AI will vary by industry stakeholder, subject to each company's individual commercial decision-making.

# Glossary

**AAI** – Artificial Intelligence
**ML** – Machine Learning
**LLM** – Large Language Models
**API** - Application Programming Interface
**PRM** – Passenger with Reduced Mobility
**UM** - Unaccompanied Minors

# Contents

# Executive Summary

In the rapidly evolving landscape of technological advancements, the airline industry is at a crossroads, driven by the transformative potential of artificial intelligence (AI) and machine learning (ML). In particular, the emergence of Generative AI has captured the imagination of business leaders worldwide, compelling them to delve deeper into its implications across various sectors.

The historical trajectory of AI and ML, tracing back to their origins, showcases the steady progression from theoretical concepts to practical applications that have redefined industries. Recently, this journey has accelerated, with Generative AI becoming the focus for new opportunities. Notably, the rise of Large Language Models (LLM), and their derived applications such as ChatGPT from Open AI or Bard from Google has significantly contributed to its practical implementation among business leaders. They now have to navigate the implications and possibilities that Generative AI ushers in.

AI and its generative capabilities are revolutionizing industries worldwide, and IATA promotes a collaborative approach to leverage the benefits and overcome the challenges. In order to harness the potential of Generative AI, a collaborative brainstorming session took place during our Innovation Day 2023. The outcome was a multidimensional exploration of use cases, challenges, and risks, orchestrated through a dynamic process of collaboration and ideation.

Prior to the event, a survey gauged the interest of potential use cases and identified promising solutions, covering a variety of industry-specific domains. The members of the Digital Transformation Advisory Council (DTAC) and event participants narrowed down the list to the ten most promising topics.

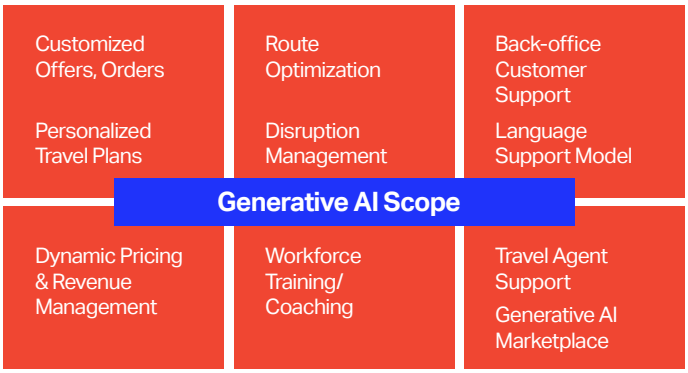
Participants were structured into groups with the task of identifying challenges, and opportunities as summarized below and explained in more details in section 3 of this report.

In the realm of Customized Offers and Orders (3.1), Generative AI can enable airlines to create a comprehensive language communicating with customers on targeted offers based on user-provided data, enhancing customer experience and satisfaction. However, challenges include making the technology inclusive for older generations and ensuring that AI-generated promises are achievable, avoiding miscommunication.

In Disruption Management (3.2), Generative AI can provide comprehensive information on strikes, delays, and other issues, enhancing passenger experience. It can also articulate in human language the analysis of data to offer personalized perks and assistance for specific passenger groups. Challenges include accurate data sharing, real time information from applications, ensuring confidentiality and integrity, and balancing customer expectations for a hybrid human-AI approach.

## Generative AI Roundtable Topics of Discussion

1. Customized Offers and Orders
2. Disruption Management
3. Route Optimization
4. Dynamic Pricing & Revenue Management
5. Personalized Customer Travel Plans
6. Workforce Coaching and Training
7. Back-Office Customer Support
8. Travel Agent Support
9. Language Models Based on Aviation Language
10. Creation of a Generative AI Marketplace Assembling Offers from Third Parties




Route Optimization (3.3 ) benefits from Generative AI's ability to provide users with human language content insights into seasonal traffic, weather, and events, optimizing travel experiences. However, challenges include data reliability and privacy concerns, real time information from current applications, as well as regulatory restrictions on AI usage.

Dynamic Pricing and Revenue Management (3.4) benefit from Generative AI's support for comprehensive interpretation of machine learning analysis, although most of the use cases are limited to ML.

Personalized Customer Travel Plans (3.5) are enhanced by Generative AI's ability to create tailored content via LLM with recommendations and improved trip planning. Challenges include copyright and IP concerns and avoiding breaching third party rights, privacy considerations, maintaining AI accuracy, and ensuring interoperability between travel partners.

Workforce Training and Coaching (3.6) can be optimized with Generative AI, offering personalized career paths and constant coaching via LLM content. Challenges include data protection, quality assurance, and corporate responsibility.

Back-Office Customer Support (3.7) can benefit from knowledge management via comprehensive human language, improving efficiency; but societal acceptance and employee concerns must be addressed.

Travel Agent Support (3.8) is enhanced through better communication and automated processes via comprehensive content created by Generative AI, but training costs and industry collaboration are key to be addressed.

Language Support Models (3.9) help customers understand aviation terminology, but building trust and achieving model maturity are key challenges.

Creation of Generative AI Marketplace Assembling Offers from Third Parties (3.10) can enhance business meetings and events via LLM by data analysis. Challenges include privacy concerns and limited data collection, resulting in damage to a company's reputation due to inaccurate suggestions.

# 1. What is Generative AI?

Generative AI is a term that refers to a branch of artificial intelligence (AI) that focuses on creating new data or content from existing data or content. It is a dynamically emerging field that differs from other examples of AI and machine leaning (ML) in terms of its goals, methods, and challenges. In this paragraph, we will explain the concept of generative AI, how it operates, and what are some of its potential applications and limitations.

## 1.1. Artificial Intelligence (AI)

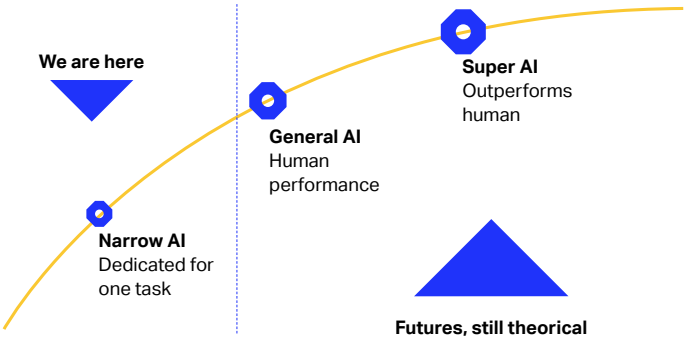
Artificial Intelligence is a discipline encompassing the development and deployment of computer systems and algorithms designed to perform tasks that typically require human intelligence. AI systems are characterized by their ability to analyze data, make decisions, create predictions, and adapt to varying circumstances, often aiming to emulate human cognitive functions. It is important to note that while a significant portion of AI relies on Machine Learning (ML) techniques, not all AI methodologies fall within the purview of ML.

One notable example of AI that does not rely on Machine Learning is the class of systems known as "Expert Systems". Those are designed to capture and replicate the knowledge and reasoning capabilities of human experts in specific domains. These systems utilize human defined rule-based approaches and knowledge representation techniques to make decisions, diagnose problems, and provide recommendations within their specialized field of expertise. Unlike Machine Learning, which learns from data, Expert Systems rely on predefined rules and knowledge bases to make inferences and draw conclusions.

Advancements in AI are defined in three levels. Narrow AI, also known as Weak AI, represents the current state of artificial intelligence technology. These AI systems are designed for specific tasks and excel in performing them, but they lack the broad cognitive abilities of humans. In the real world, we encounter Narrow AI applications in various forms. Virtual personal assistants like Siri and Google Assistant are prime examples, excelling in natural language understanding and providing user-specific information. Additionally, recommendation algorithms on platforms like Netflix and Amazon use Narrow AI to analyze user preferences and suggest content. These systems, while impressive in their specific domains, are limited in their ability to generalize beyond their predefined tasks.

Artificial General Intelligence, also known as 'strong' AI, is a theoretical form of artificial intelligence that can perform any intellectual task that a human can. It would have the same cognitive abilities as humans, such as reasoning, problem-solving, creativity, and self-awareness. Strong AI does not exist yet, and it is not clear if it is possible to achieve it.[1]

The term Artificial Super Intelligence refers to the hypothetical concept of AI that can outperform humans in any cognitive ability and exceed human intelligence levels.




## 1.2. Machine Learning (ML)

Machine Learning (ML) is the application of Artificial Intelligence where a system can improve from past experience without the need to explicitly be programmed. In this paradigm shift, algorithms do not rely on programming instructions, but instead identify patterns in data to improve their performance over time. Machine learning is currently applied in various data domains leveraging unstructured (e.g. free text and images) and structured datasets (e.g. table of numbers or names).

The ML models use large historical datasets to perform well in a particular task. This is achieved by a training phase where the algorithm iterates and adjusts its parameters to minimize its errors. Once trained, its performance is evaluated on new data - unseen during the training phase - to test its generalization capabilities.

1 "A Holistic Approach to AI", Strong AI, UC Berkely, https://www.ocf.berkeley.edu/~arihuang/academic/research/strongai3.html

Machine Learning can be categorized in three main types: Supervised Learning, Unsupervised Learning and Reinforcement Learning. In Supervised Learning the model is provided with labeled data, and the training process is based on input-output pairs. The system can make predictions to classify (e.g. categorizing passenger feedback as positive, neutral, or negative) or predict future numeric values (e.g. predicting fuel consumption). [2]

Unsupervised Learning lets the algorithm identify patterns and structures in the data without defining labels to be predicted. Some common examples of use cases are clustering (e.g. customer segmentation and dimensionality reduction).

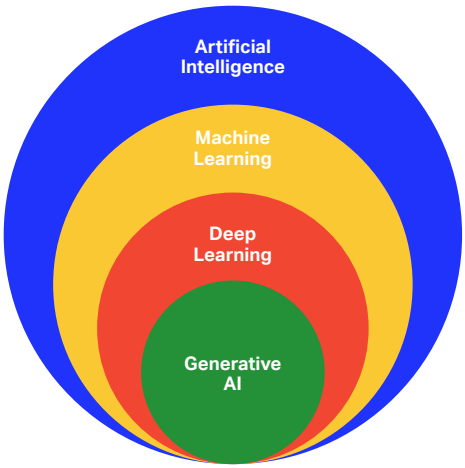
In Reinforcement Learning the algorithm is subject to a predefined environment and learns to make optimal decisions from feedback in form of rewards or penalties. It can be used as a complement of other ML systems to improve performance based on human feedback (e.g. to remove toxicity and hate speech from Generative AI applications).

Machine Learning in the form of Deep Learning, where the system involves artificial neural networks arranged in multiple layers, can model extremely complex and abstract data representations. It has shown beyond human performance in terms of accuracy, speed and scalability for various tasks ranging from image and speech recognition to autonomous driving and natural language understanding. [3]

Specific neural networks architectures have been researched to model data arranged in sequences, like human language text, time series data, or videos. In this case the model must find the most relevant parts of the data to process the information. The ability to do so is achieved thanks to attention mechanisms. Irrelevant parts of the data are thus ignored. Nowadays, most of state-of-the-art sequence modeling systems are based on foundational models that implement this attention mechanisms. This lead to the generalization of the Large Language models and generative AI in a broader sense.

Large Language Models (LLMs) have a rich heritage intertwined with the field of Natural Language Processing (NLP). NLP is a subfield of artificial intelligence that focuses on the interaction between computers and human language. Its ultimate aim is to enable machines to understand, interpret, and generate human language in a way that is both meaningful and contextually relevant. The inception of LLMs can be traced back to the fundamental task of NLP: predicting the next word in a sentence. While this task may appear simple, it is, in fact, a core challenge in language understanding that led to the initial groundwork for the development of more sophisticated language models. In NLP, predicting the next word is analogous to solving a puzzle. Given the words that precede it, the model must discern the most probable word to follow. To achieve this, early NLP systems employed statistical techniques, analyzing patterns and probabilities based on historical language data.

## 1.3. Generative AI




The rise of LLMs owes much to several key elements. Firstly, the scalability of distributed computing resources allowed researchers to train colossal neural networks efficiently. This computational power, coupled with academic developments, particularly the introduction of transformers and attention mechanisms, catalyzed significant improvements in LLM performance, enabling these models to understand context and relationships in language like never before. These models are at the forefront of AI research and application, pushing the boundaries of what machines can understand and generate in human language. [4]

A fascinating side note is the sheer complexity of language generation. For instance, considering a dictionary of 10,000 words and a sequence length of 20 words. The number of possible combinations exceeds the total number of atoms in the observable Universe. This computational problem's immense scale demonstrates not only need for an extreme computing resources, but also reveals ingenuity of this technology's inventors. [5]

Generative AI models have embarked on a remarkable journey of achievements, transforming the landscape of artificial intelligence. Their milestones are nothing short of astonishing. These models have substantially enhanced AI's language understanding capabilities, making language comprehension far more powerful. Generative AI models have transcended mere automation, demonstrating human-level performance in tasks as intricate as passing the Bar exam, the Graduate Record Examinations (GRE), and coding tests. Furthermore, their prowess extends to quantitative reasoning and knowledge benchmarks, where they outperform expectations, excelling in assessments like SuperGLUE, SQuAD, and TriviaQA. Perhaps most impressively, Generative AI models exhibit an exceptional aptitude for text generation, crafting fluent, coherent, and diverse narratives across various domains and genres. These achievements underscore the transformative potential of Generative AI in reshaping the boundaries of what AI can accomplish in the realm of language. [6]

2 Christopher Bishop, "Pattern Recognition and Machine Learning," Springer Link, 2006, https://link.springer.com/book/9780387310732

3 Michael Nielsen, "Neural Networks and Deep Learning," 2019, http://neuralnetworksanddeeplearning.com/

4 Ashish Vaswani, "Attention Is All You Need," Cornell University, 2017, https://arxiv.org/abs/1706.03762

5 Planck Collaboration, "Astronomy & Astrophysics" Harvard University, 2016 https://ui.adsabs.harvard.edu/abs/2016A%26A...594A..13P/abstract

6 Ian J. Goodfellow et al., "Generative Adversarial Networks," Cornell University, 2014, https://arxiv.org/abs/1406.2661

However, alongside these remarkable feats, Generative AI models encounter their fair share of limitations. Challenges such as data quality pose a significant hurdle, as these models may struggle to validate the accuracy, reliability, or timeliness of data gathered from diverse sources, potentially leading to errors and inconsistencies in their outputs. Moreover, Businesses must conduct internal assessments to safeguard themselves and their customers. This includes obtaining appropriate consents for using third-party copyright and intellectual property to prevent infringement claims, as well as ensuring consent for third-party confidential data to avoid liability. Unauthorized personal data use must be avoided to prevent privacy regulation violations and fines. Additionally, vigilance against misinformation, bias, and discriminatory content in predictive analysis and content creation can prevent errors, repeated tasks, third-party claims, and reputational damage.

Also, the issue of hallucinations further compounds these limitations, as Generative AI models might generate text that is factually incorrect, nonsensical, or even misleading, without proper grounding in evidence or sources.

To navigate these challenges, strategies come into play: incorporating information from knowledge bases to mitigate outdated data, meticulously cleaning the training dataset to reduce bias and offensive content, and implementing feedback loops and harmful text detectors to bolster content moderation. These solutions collectively address the complex landscape in which Generative AI models operate, striving to elevate their reliability and ethical standards.

A captivating facet of Generative AI, including Large Language Models (LLMs), lies in its extraordinary rate of advancement. These systems exhibit a remarkable dynamism, with their capabilities evolving at an astonishing pace, frequently over mere weeks or even days. This unprecedented agility has catapulted Generative AI into the forefront of the Artificial Intelligence landscape.

While LLMs have garnered significant attention, Generative AI encompasses more than just text generation. It extends to image generation, video generation, music composition, speech synthesis, and even code generation. Moreover, the diverse range of applications for Generative AI plays a pivotal role in its rapid evolution. These models find utility not only in traditional fields like natural language processing but also in emerging domains such as content creation, medical research, and autonomous systems, with highly specialized use cases such as drug discovery and autonomous vehicles, showcasing the versatility and transformative potential of Generative AI.

# 2. Innovation Day 2023

The IATA Innovation Day 2023 was an event that brought together the Digital Innovation Community to discuss current industry priorities, and how innovation can unlock them.

The event gathered over 100 participants, with attendees from all over the world. 41 airlines representatives attended the event, including members of the Distribution and Digital Transformation Advisory Councils (DAC and DTAC). It also garnered attendance from our Digital Innovation Strategic Partners, members of the Travel Management Advisory Group (TMAG) representing the voice of the corporate buyer community and other members of the Innovation Ecosystem, representing the whole value chain.

The main theme of the event was around the Modern Airline Retailing Program (MAR) where the industry discussed how to meet traveler expectations through the move toward 100% Offers and Orders. Additionally, the participants were able to learn about the latest innovative solutions from startups participating in the Accelerate@IATA program, the Open API ecosystem, the advancements in the End-to-End Proof of Concept (POC) on Digital Identity under the IATA Innovation Lab, and the Diversity Datathon results.

## A Collaborative Industry-Wide Generative AI Approach

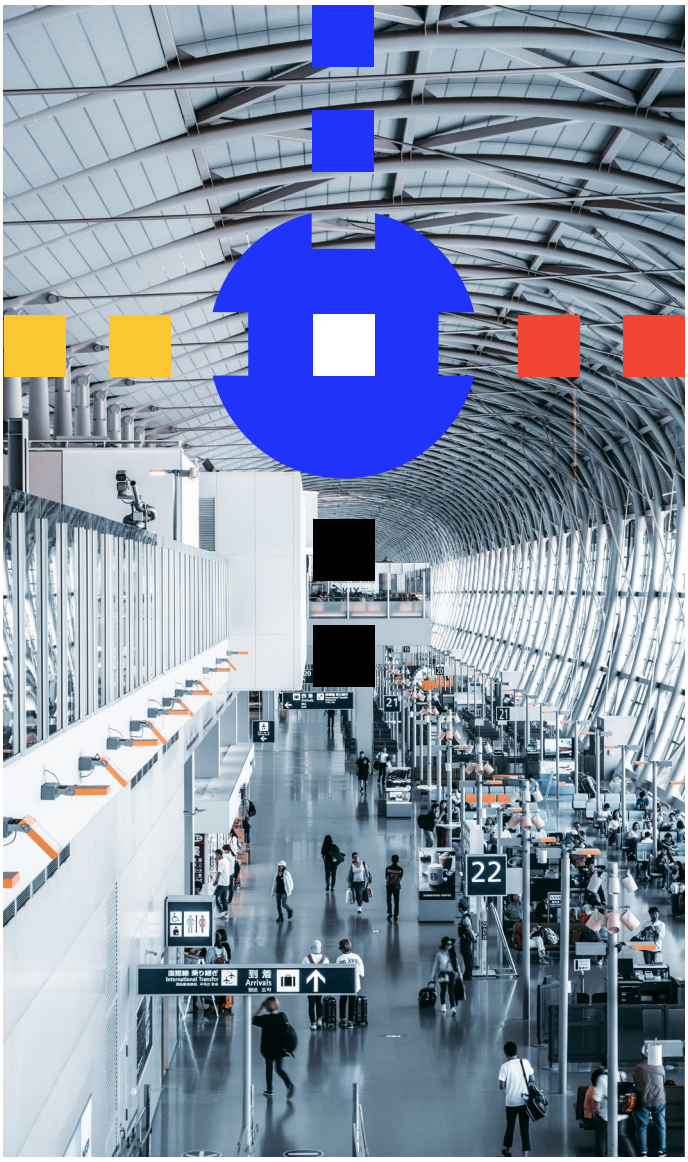
In acknowledgement of the overwhelming popularity surrounding Generative AI and the opportunities for integration within the aviation industry, one of the event priorities was to include a roundtable discussion on Generative AI.

The motivation for a Generative AI brainstorming session at Innovation Day emerged from recommendations provided by member airlines at the quarterly DTAC meetings. With the popularity surrounding ChatGPT, it was clear that the industry needed to begin discussions around its incorporation in a controlled, standardized environment.

Research was conducted on topics within the industry which could benefit from the incorporation of Generative AI, and 18 potential industry topics were selected. Participants were requested to vote on which of the industry pain points they believe could benefit most from the incorporation of Generative AI in a pre-event survey and narrowed the list down to 10 topics. Additionally, with assistance from the Generative AI Taskforce, led by IATA Chief Data and Information Officer, Kim Macaulay, the list of topics was vetted for the viability of Generative AI's implementation.

The event was structured as a collaborative brainstorming session, with a focus on understanding the impact of Generative AI on the future of the aviation industry.

Participants at the 2023 IATA Innovation Day were placed into groups, each focusing on a specific topic. The groups consisted of airline representatives, IATA Subject Matter Experts (SMEs), and the travel value chain. Each group was tasked with identifying use cases, challenges and risks related to the use of Generative AI in their respective topics, and attendees were encouraged to engage in collaborative thinking and idea generation.



# 3. Generative AI Use Cases – Opportunities and Risks

The following sections include all topics discussed at the Innovation Day 2023 and these items reflect the discussions that took place, and do not represent IATA views. Daniel Friedli, Managing Director & Partner at Travel in Motion facilitated the Generative AI Roundtable and the subsequent report below.

## 3.1. Customized Offers and Orders

### Opportunities & Use Cases

- Ability to generate targeted offers content based on patterns and data from user-provided information. (ie Users can indicate their preferences and status, such as Frequent Flyer (FQTV) and the airline can provide with human language content back to the customer aligning their offers to such preferences).
- The potential to understand customers who appear anonymous, but gradually learn to some extent about their preferences by their web-browsing behaviour, although this is not the primary function of Generative AI. (e.g.. it can create personalized human language content product recommendations or suggest articles or products related to their interests.

### Challenges

- Evaluating the inclusiveness to older generations is an important goal to address. Ensuring that what the generative AI offers is indeed achievable in the delivery process is a crucial consideration. (e.g. the LLM content does not hallucinate – who is responsible when a Generative AI promise is not delivered?).

## 3.2. Disruption Management

### Opportunities & Use Cases

- LLM content handling information for user about strikes, delays, special cargo, turbulence, and sustainability-driven selections.
- Optimize via LLM post-disruption communication for an improved customer experience.
- Instantly provide via human language content related disruption details and recommendations for passengers. (e.g. utilize AI to turn disruptions into opportunities and offer personalized perks via personalized human language content creation based on customer's preferences).
- Analyze data of customers based on urgent needs and provide back these recommendations via human language in order to enhanced assistance for specific groups (e.g. Passengers with Reduced Mobility PRM, naccompanied minors, live animals)

### Challenges

- Accurate dynamic data sharing among entities.
- Ensuring confidentiality, availability, and integrity of the solution and results.
- Implementing "fair bias" to avoid discrimination when communicating directly with customer
- Balancing customer expectations for a hybrid human/AI approach.
- Ensuring accessibility and inclusivity across languages and devices.
- Implementing industry standards for Generative AI solutions.
- Data availability from recent events available (e.g. strikes).

## 3.3. Route Optimization

### Opportunities & Use Cases

- LLM content for an improved user's understanding of seasonal traffic and weather and other events (e.g., geopolitical, conferences, health issues, strikes).
- AI-customized subscriptions such as special offer for distressed inventory in travel using LLM for the communication.

### Challenges

- Data availability, reliability, and privacy.
- Security.
- Generative AI restrictions in countries and companies.
- There is very little experience regarding the acceptance of these types of offers, or even the assessment of how well AI-created solutions align with consumer preferences.

## 3.4. Dynamic Pricing and Revenue Management

### Opportunities & Use Cases

- Generative AI supports data collection to enable LLM to provide information back on the willingness to pay depending on individual circumstances /profiles /personas. (this is limited to the content creation and not the prediction itself which is done via AI itself and ML like the examples below).
- Detect events that are not normally in the airline system, allowing airlines to identify market changes and adjust prices accordingly.
- Understand the availability and load factors of competitors using existing data and predictive analytics to optimize pricing.

- Currently assists in enhancing the existing inventory by offering passengers more options based on seat availability and ancillary services.

### Challenges

- Data Accessibility ensuring that generative AI systems have access to the necessary data.
- Data Reliability to make informed decisions, generative AI models depend on reliable data sources. Ensuring data accuracy and quality is essential to avoid misleading market insights. Implementing data validation and cleansing processes is crucial.

## 3.5. Personalized Customer Travel Plans

### Opportunities & Use Cases

- Generative AI plays a key role in the B2C environment as it can create content via LMM for image, text and voice. It can utilize customer history and propensity models to generate personalized recommendations for future travels.
- Understand the behavior and interests of the travelers and recommend via LLM personalized experiences (e.g., persona that likes history and museums vs one that prefers sports events).
- Understand the context of a specific trip based on available data, and enhance recommendations based on that (e.g., the recommendation could be based on business or leisure trip).
- Sustainability -provide personalized travel plans (eco-friendly, sustainable).
- Provide suggestions via human language in order to maximize leisure time during business trips while adhering to company policies.
- Help to understand via LLM trip logistics to optimize travel planning. (e.g.. Preparation information, such as roaming charges for mobile communication, to create an automated travel dossier).
- Virtual walk through of the planned trip, (e.g., highlight the landmarks and interesting sights of the planned trip).

### Challenges

- Privacy and trust.
- The accuracy of AI-provided information is crucial, as trust is fragile; an initial inaccuracy can make it difficult to regain trust in subsequent AI responses. (Ensuring up-to-date answers is crucial; generative models trained on outdated data can include closed restaurants or hotels in travel plans).
- Interoperability of data information between travel partners.
- Transparency around the use of the technology. (Openness about the data used to train the generative AI and its compliance with upcoming regulations).

## 3.6. Workforce Training and Coaching

### Opportunities & Use Cases

- Better understanding of analyzed data via LLM to provide back to the user a comprehensive personalized career training plan using already existing predictive models based on industry developments.
- Generating exams, tests, and training material.
- Guiding employees' career paths via LLM, identifying strengths, providing development plan proposals, and addressing weaknesses.
- Recommendation via LMM of tailored training courses which are automatically adapted and enhanced based on user's feedback. (i.e. enhance talent attraction and retention through improved training experiences (e.g., incorporating scenario simulations)
- Constant AI coaching, mentoring – no-shame access to knowledge.
- Utilizing connected devices and wearables to collect data and come back with human language content for enhanced health, motivation, and to analyse responses to various situations.

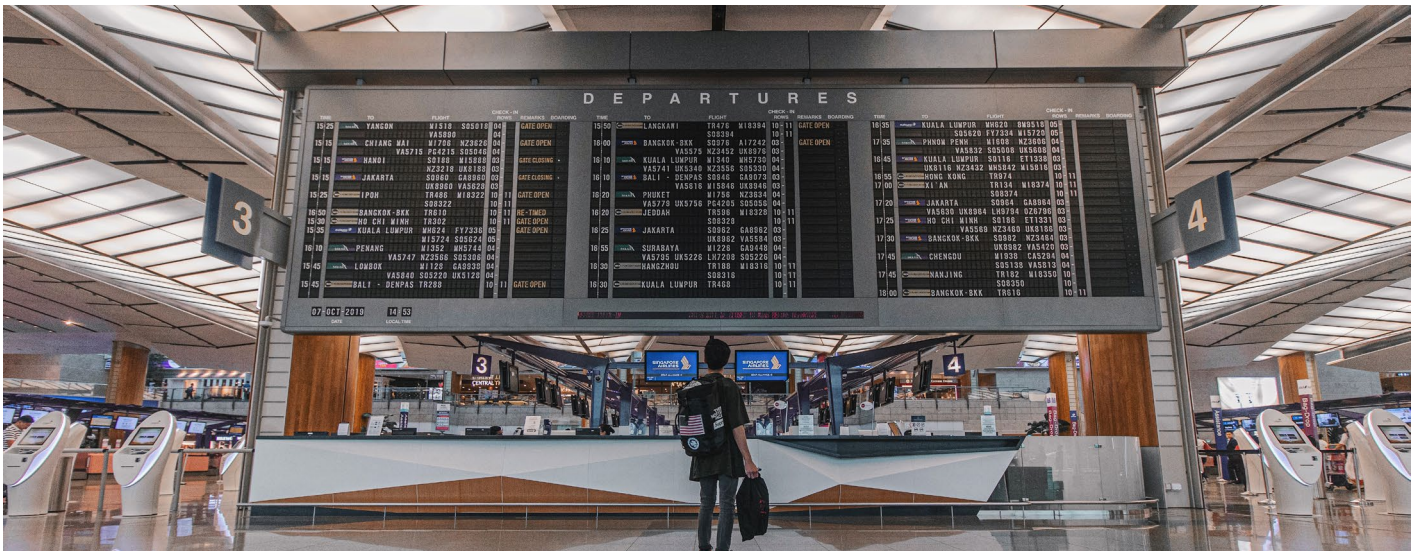
### Challenges

- Data protection - clarity on what happens with the data and who has access to it.
- Quality, and the need for constant human assessment and validation.
- Corporate responsibility and governance
- Nurturing training - empathy, human touch, changes in the experience.
- Devalued training perception
- Ensuring that the AI data is updated, and that all data is captured.
- Learning experience, physical to virtual – change in training methodology.
- Fixed and initial costs.

## 3.7. Back-Office Customer Support

### Opportunities & Use Cases

- Knowledge management via LLM for agents and customers, with solutions for better support.
- Creation of personas based on customer issues and linking to CRM for personalized assistance with human language. (integration with customer engagement and recovery efforts)
- Collection of new data, identifying upsell opportunities during airline support interactions via generative AI
- Automating repetitive tasks to save resources and improve accuracy.
- Adapting communication based on customer demographics and providing live translation for accessibility.
- Improving processes for higher automation and personalization.
- Implementing pattern recognition techniques.




### Challenges
- Social acceptance of replacing humans with machines.
- Jobs will be less exciting for employees as machines are doing most of the work.
- Fear of replacement by the Generative AI in their respective positions.

## 3.8. Travel Agent Support

### Opportunities & Use Cases
- Language models through APIs – protects flow of data but gives the agent sufficient data via LLM content to better serve the customer.
- Optimize communication during a disruption.
- Facilitating the outcome via LLM of documentation collection for customers' travel requirements.
- Virtual personalized brochures to the customer.

### Challenges
- Training the AI models might incur high costs or time delays because employees lack the necessary expertise in AI training.
- Resistance due to fear of job market exposure.
- Industry collaboration (industry needs to come together for common industry issues).

## 3.9. Language Support Models Based on Aviation Language

Aviation's terminologies might confuse customers, making it hard to comprehend (e.g. PNR, push-back, airport codes, etc.).

### Opportunities & Use Cases
- Build solutions that can interact with Generative AI to support the customer in a way that follows the end-to-end processes, answering relevant questions and providing solutions for a specific step of the journey.
- Achieve an industry standard AI rather than isolated solutions, which can be connected to existing AIs.
- Enhance understanding of the customer through conversational AI.

### Challenges
- Customer trust, especially during the AI learning phase.
- Reaching maturity before customers give up. It is not possible to foresee all questions, thus potentially cannot train the AI models sufficiently in the early days.

## 3.10. Creation of a Generative AI Marketplace Assembling Offers from Third Parties

### Opportunities & Use Cases
- Optimizing business meetings and events by leveraging AI to analyze various factors, including participant needs, location preferences, and travel requirements, to identify the most efficient meeting location. Generative AI facilitates and automates the data analysis to provide a comprehensive content feedback via LLM.
- B2C – Try before you buy. Generative AI does not show real images of products unless it is trained on a dataset of images, but it can create content, including the products' pictures, for a tailored offer experience.
- Provide content regarding efficient intermodal options to optimize the customer journey.

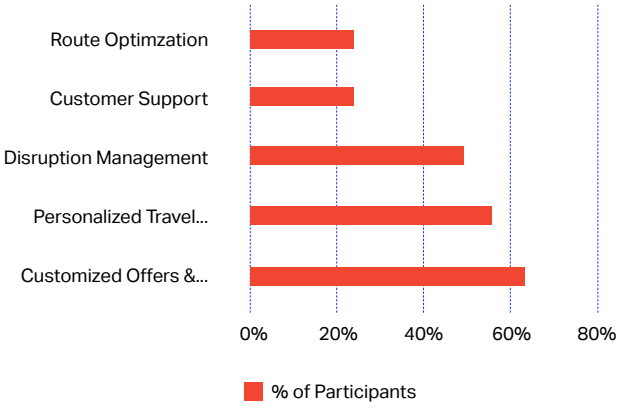
### Challenges
- Make sure it provides accurate information to the customer.
- The booking process might remain complex and cumbersome.
- Like seeking advice from a friend, Generative AI recommendations might be fallible depending on data maturity and community feedback of exposed data
- Increased data collection for personalization raises privacy issues and potential data misuse.
- Poor Experience Impact: Inaccurate suggestions could lead to dissatisfactory customer experiences and harm a company's reputation.

# 4. Leave it to the Industry: Social Media Polling

Before and after the Innovation Day event, there were clear trends in the popularity of incorporating Generative AI into a few specific topics.

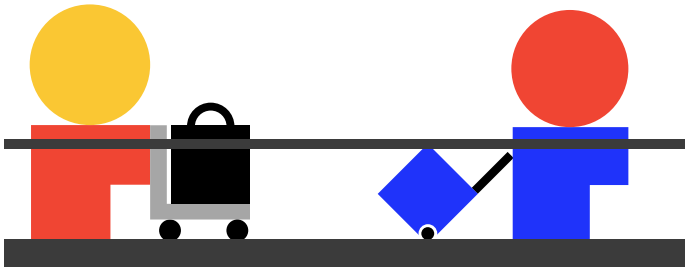
In the Innovation Day pre-event polling, which asked attendees to identify the topics they were most interested in discussing with respect to Generative AI, 5 topics emerged as most favourable by the attendees. The results of the polling are shown below:

**Innovation Day Pre-Polling:**
**Interest in Generative AI Use Cases**

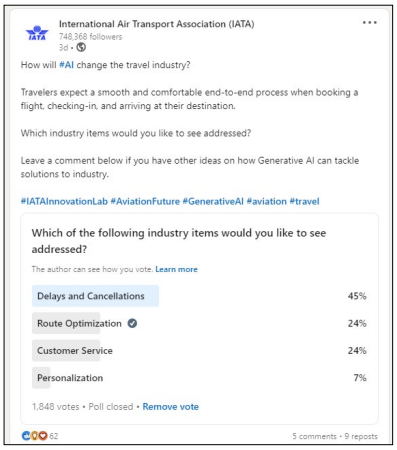



After the event, IATA delved deeper into these topics and explored their potential for industry-wide collaboration. Thus, the next step was to turn to the industry as a whole and get a better understanding of what were the topics that were of most interest to the aviation public. 3 social media polls were conducted on IATA's LinkedIn, Instagram and X [Twitter], prompting respondents to vote on which industry pain points they would like to see tackled using Generative AI.

Personalized Travel Plans and Customized Offers & Orders were banded into one, labelled as *Personalization*, both due to the topics' similarities and to simplify the survey's options.

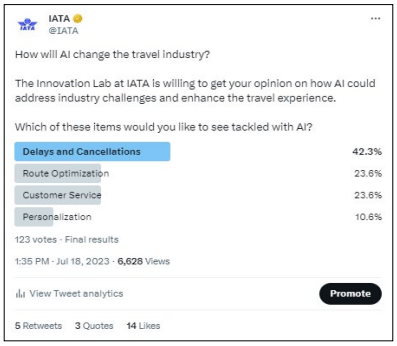


The results of the social media polls all showed an overwhelming favourability for the interest in leveraging Generative AI to better information management regarding cancellations and delays. The results of the social media polling are shown below:




1. LinkedIn Results

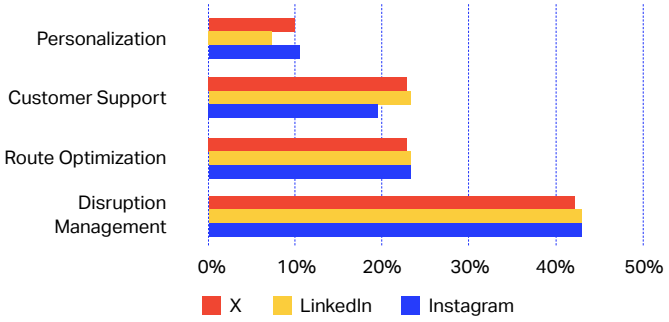

2: Instagram Results




3: X Results

These polling statistics can also be seen below in this chart:

**Results of IATA's Social Media Generative AI Polling**



# 5. What is Next?

Collaborative discussions with industry stakeholders will take place on the topic of Generative AI, with the envision of hosting innovation initiatives such as a Sprint, Proof of Concept (POC), or Design Thinking Workshop.

# Credits

## A sincere thank you to...

All participants of our Innovation Day 2023 for their valuable contributions. Your involvement has significantly contributed to establishing the foundation for future innovation and transformation within our industry.

Members of the DTAC (Digital Transformation Advisory Council) for their substantial role in driving IATA's innovation initiatives. Your insights continue to shape the aviation landscape.

Daniel Friedli, Managing Director & Partner at Travel in Motion, for his facilitation of the Innovation Day Generative AI Roundtable and the subsequent report on Generative AI Use Cases, Challenges, and Risks derived from the group discussion.

Want to know more about the IATA Innovation activities?
Visit iata.org/innovation

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