



ROLE OF AI IN TRAVEL AND HOSPITALITY INDUSTRY

Abstract

The Travel and Hospitality (T&H) industries are adopting modern technology along with a high degree of Machine Learning (ML) and Artificial Intelligence (AI). This is introducing new levels of disruption.

AI provides travel brands with the perfect opportunity to enhance marketing, customer service, customer experience, and increase retention.

Artificial Intelligence has the ability to offer invaluable insights that have not been experienced by travel companies and hoteliers before, and it will do this by gathering and analyzing large amounts of freely available customer information.

Increasing numbers of travelers and profound technological changes in the Travel and Hospitality industry compels service providers to differentiate themselves from the competition. As a result, best practices and existing business processes need redefining at all levels of the business to meet guest preferences, deliver memorable travel experiences and increase customer loyalty.

To personalize customer service, the Travel and Hospitality industry has started embedding AI technologies into its customer service portfolio and operations. Seasoned IT decision-makers identify AI as a game changer primarily for its ability to identify data patterns and predict guest preferences with increasing accuracy. AI can also identify potential operational risks based on indicative data patterns and learnings from the past. AI utilizes cognitive learning to undertake traditional human functions at much-reduced costs, with increased efficiency, and with least, if any, errors.

According to IDC – Worldwide Hospitality, Travel 2018 predictions, by 2019 AI will have been adopted by 70% of Online Travel Agencies and 60% of Hotels worldwide. This will increase customers by an additional 30%. As per the 2017 Air Transport IT Trends Insights report by SITA, 52% of airlines and 45% of airports were planning to invest in large AI/ML-based programs in the next 3 to 5 years.

Even though guests' leave their digital footprint at a host of touchpoints, such as, restaurants, recreation facilities, airlines, shops, at events, on social media, and more, yet the utilization of this valuable data to identify guest preferences and new revenue streams is quite low. Insights are available mostly through data analytics. Now, with the advancement in technology and tools, the application of AI principles on top of analytics can increase the accuracy of predicting guest preference. The Travel and Hospitality industry has already started applying AI by deploying robots and humanoids as receptionists and guides at hotels and airports.



Key Driving Factors for AI in Travel and Hospitality

With an increase in travelers, it is imperative for service providers to differentiate themselves with highly personalized services even while keeping guest preferences in mind. The complex process of understanding guest preferences and monetizing guest data has advanced with the introduction of data analytics. ML is the best medium to learn and act based on past experiences and improve efficiency in operations to fulfill customer preferences cost-effectively. Deep knowledge of individual customer preferences enable the customer agent or the marketing team to suggest products and services the customer is likely to avail.

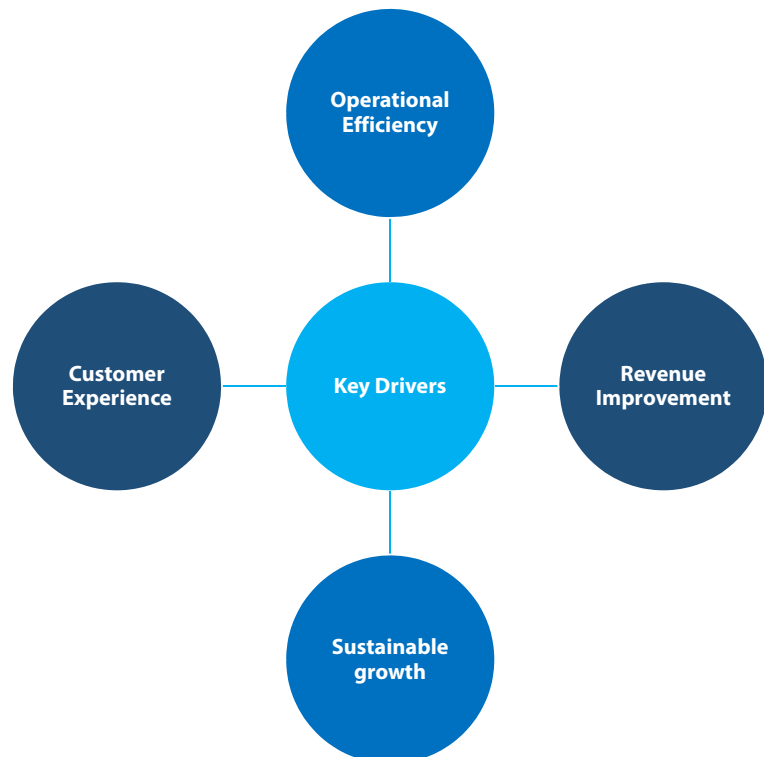


Fig: Key Drivers for AI

Application of AI in Travel and Hospitality Industry

The implementation of AI and ML in the Travel and Hospitality industry has wide implications for enriching the end-user experience of guests and offers the option for dynamic pricing.

An application powered by AI and ML enables the Travel and Hospitality industry to personalize services, analyze user reviews, and offer virtual assistance.

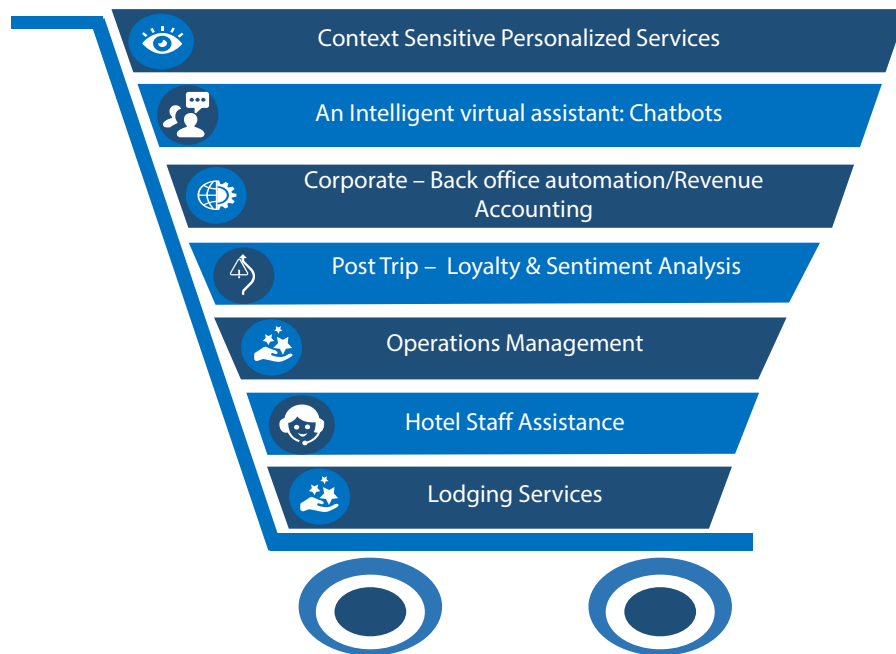


Fig: Applications of AI in Travel and Hospitality Sector

Business Scenarios for Travel & Hospitality

Context Sensitive Personalized Services

Personalization ensures the guest has a pleasant experience and assures customer delight. To achieve personalization data is decoded about customer preferences, buying behavior, satisfaction levels and likes/dislikes, from personal/professional network and various other sources. However, the biggest challenge here is to collect relevant data from a number of disparate systems and create meaningful inferences from it.

- AI can help create and refine hyper-personalized campaigns to increase revenue and customer retention
- ML can help companies to gather predictive data, identify patterns within large sets of data and understand customer behavior to facilitate frequent flyer points (FFP) redemption

An Intelligent virtual assistant: Chatbots

The SITA report mentioned above indicates that 68% of airlines and 42% of airports plan

to implement AI-based intelligent Chatbot services. These chatbots will scan keywords and respond with matching keywords from the learning database. Backed by a digitally connected expert, the system will record, process, monitor and learn every event around the guest including environmental factors.

The virtual assistant applications will include:

- An 'intelligent virtual assistant' that communicates with guests and suggests services, offers, travel ideas, tips, and alternate plans
- The chatbot will reduce the utilization of call centers and offer hyper-personalized self-service
- Information about the guest, schedules, service status, loyalty, seat/room availability, cheque, etc. will be accessible to the chatbot without logging into individual systems

Corporate – Back-office automation and revenue accounting

Robotic Process Automation (RPA) is a key tool in back-office automation and can execute tasks otherwise done by humans. RPA can take over mundane and repetitive tasks.

- AI is capable of finding demand patterns, forecasting related prices and even planning human resource requirements
- ML and algorithms can automate the categorization of invoices. This would otherwise require an accountant to perform the task manually. Automation of financial reconciliation can also be performed

Post Trip – Loyalty & Sentiment Analysis

With the advent of social media, customers like to express themselves on the web. Using AI and ML, hospitality enterprises can gauge which features of their loyalty program attracts customers and which are deal-breakers.

- Sentimental analysis (involving Natural Language Processing) can help businesses to understand positive, negative, and neutral views by analyzing emotional behavior
- Based on recommendation hotels and service providers can create personalized smart videos and send them to guests. These could be about new offers, recommendations, tips, etc.

Operations Management

The International Air Transport Association (IATA) estimates that by 2035, 7.2 billion passengers will be in transit. Managing smooth operations will be challenging with such a high volume of passengers. Flight turnaround activities would require a smart and intelligent system to monitor and assess potential delays in departure.

- With predictive analytics and ML, passenger flow can be predicted to

prevent overcrowding at airports

- ML can be deployed to assess the risk of delayed departures based on the current operational situation, and previous data and patterns
- Machine learning capabilities can be used to develop a virtual assistant to proactively trace baggage by learning typical baggage mishandling and breaking points, situations, and environments

Hotel Staff Assistance

Hotel staff including those in Concierge, Housekeeping, and the Front-Desk have personal contact with guests. These personnel use the Point of Sale (PoS) and Property Management System (PMS) through which AI can unveil the next level of guest services. Integration of the PoS and PMS offer real-time booking, confirmation, and tracking. AI can make real-time

recommendations by tracking spending patterns and analyzing guest preferences.

Lodging Services

Real-time feedback can be integrated into workflows through AI and ML. This can help determine a guests' satisfaction with their room. Guests could also be given an option to relocate to another room should they be dissatisfied.

- AI can keep a tab on amenity maintenance schedules. Stay conditions (surrounding temperature), requests (clothing/ shuttle service to the airport) and grievances
- Using an AI-powered smart mirror, guests can read the news, check the weather, maps and more

Conclusion

Possibilities with AI are huge. Enterprises are moving away from rote, rules-based automated solutions such as Chatbots and toward intelligent cognitive agents that process unstructured data, engage in more human-like interactions, and constantly learn. By combining AI with advanced analytics principles, the Travel and Hospitality industry can ensure personalized service resulting in better value, and memorable experience to their guests.



For more information, contact askus@infosys.com



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