

PROJECT DOCUMENTATION

INTRODUCTION

Project Overview:

Data Analytics has revolved around every industry, including Aviation. Technology has changed how business is conducted and helps to make better decisions. As a result, data Analytics place a vital role in the Aviation industry. It assists in collecting data & planning a powerful strategy that helps to grow business overall. According to a report, after adopting big data & data analytics in the airline industry, the sector has witnessed 57% more growth. From maintaining flights to unplanned maintenance, Data Analytics in the airline industry unfolds everything. Big data tailors the flights experience better & uses data to improve performance. There are plenty of advantages, but most of all, it's how data analytics transform the airline industry. It gains insights and enhances operations to make it successful.

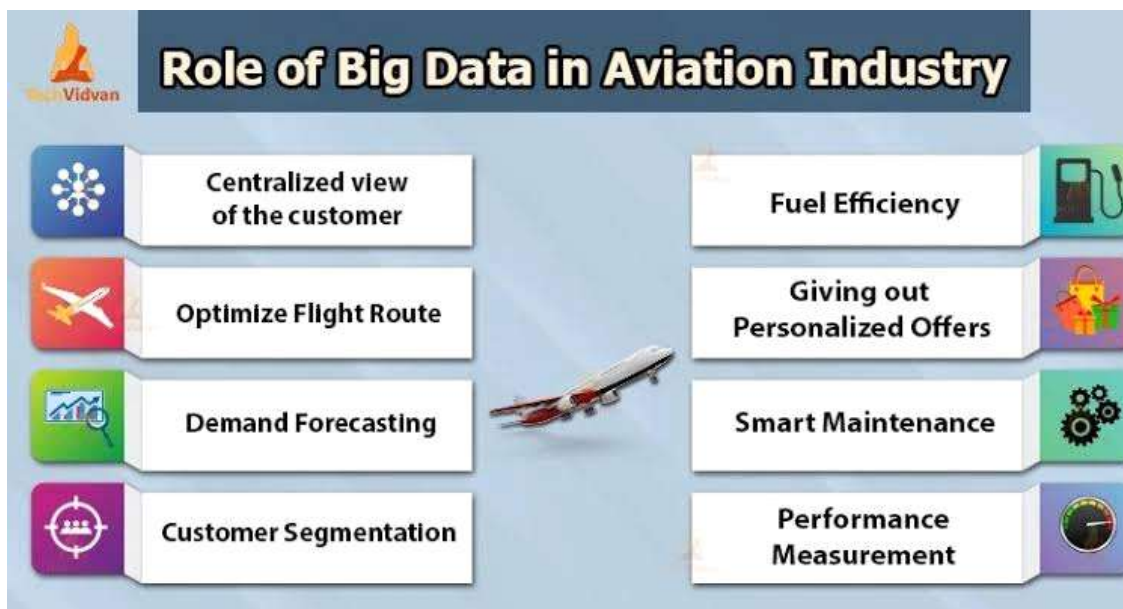


Purpose:

Enables M&E to uncover hidden insights for better decision making, cost savings & service delivery. Supports in preventive maintenance planning & provides predictive maintenance. Provides insights on process inefficiencies in a flight turnover

Why data analysis is important in aviation industry?

It can be used to predict future glitches, prevent them from happening, and make the maintenance procedures more accurate and thorough. As a result, it is possible to lower costs related to maintaining an aircraft. One of the companies using big data analytics this way is Boeing.



LITERATURE SURVEY

Existing problem:

Literature reviews are an integral part of the process and communication of scientific research. Whilst systematic reviews have become regarded as the highest standard of evidence synthesis, many literature reviews fall short of these standards and may end up presenting biased or incorrect conclusions.

References:

A reference source is a source that will provide general background information on a topic, such as an encyclopedia, dictionary, guide, or volume of literary criticism.

<https://www.travel-industry-blog.com/gds/pnr/>

<https://freetravelgenius.com/airline-reference-guide/>

<https://www.aerogestion.fr/en/references-2/airlines/>

<https://www.emerald.com/insight/content/doi/10.1108/978-1-78441-870-020153032/full/html>

<https://www.pnrstatusbuzz.in/flight-pnr-status.php>

IDEATION AND PROPOSED SOLUTION

empathy Map Canvas:

Empathy Map Empathy Map is an important step to understanding the emotions of the people, their behavior, and attitudes. The empathy map is represented in four quadrants:

- The Says quadrant: what the interviewee says aloud in an interview.
- The Thinks quadrant: captures what the interviewee is thinking throughout the experience
- The Do quadrant: captures the actions of the interviewee
- The Feels quadrant: is the interviewee's emotional state. The outline beneath addresses the Empathy Map of comprehension of the vulnerable traveler's experience picked up from our meetings, journey map and feelings. Say
 - Baggage is hard to carry when it is heavy
 - While traveling with family there is problem with airport trolley that is it is hard to push.
 - Someone with Leg injury or back problem does not have easier way to transport baggage in and out of airport
 - Cannot do anything when you are inside the airport and the weight is over limit

- . • Maneuvering the Trolley in crowd is nightmare. Think
- Long Ques and Delays are main problem.
- Old people have hard time taking baggage in and out of airport. • E-gates are meant to be fast, but it is having long que
- . • People with family face trouble pushing the trolley and managing small children. Do
- Waiting in the que for long time.
- Pushing the trolley with injured leg.
- Waiting in the que with an injured leg.
- Pushing the trolley from the car to airport and vice versa
- . • Search for trolley boy
- Complain Feel
- Back pain due to trolley pushing
- Shyness and embarrassing while unpacking the baggage to remove excessive weights
- . • Leg Injury pain while pushing the cart.
- Feel it is hard to push the trolley with much baggage.
- Annoyed and get mad when children do not behave.
- Knee Pain and Back pain
- Frustration due to long waiting.

Ideation and Brainstorming:

Improving sustainability is important to the airlines, their passengers and – most of all – to the planet. That's why airlines of all sizes are doing everything they can to reduce both fuel burn and carbon emissions. In fact, a growing number of airlines have committed to becoming carbon neutral in the decades ahead. Honeywell is on the same path and has pledged to become carbon neutral by 2035. Our commitment also extends

to applying our unique capabilities to helping our airline customers achieve their sustainability objectives with Honeywell Forge Flight Efficiency – the industry's most advanced and capable enterprise performance management solution. More aircraft rely on Honeywell Forge Flight Efficiency to improve flight efficiency and reduce.

carbon emissions than any other solution. As an Enterprise Performance Management (EPM) solution, Honeywell Forge lets you streamline your entire flight efficiency program. Often replacing multiple-point solutions, Honeywell Forge connects stakeholders across the entire organization to provide a unified source of truth for all operations-related data. Honeywell Forge advanced analytics lets you uncover the hidden potential beyond standard best practices. Even airlines with mature and sophisticated fuel-efficiency programs have unlocked significant additional savings by implementing Honeywell Forge.

"We have a strong track record of identifying and implementing initiatives to reduce our carbon emissions. This technology will allow our airlines to further optimize their fuel consumption by analyzing aircraft performance and sharing best practice across the group."

Proposed Solution:

In this digital and competitive age, every airline is focused on ensuring optimized utilization of their assets and give the best possible experience to passengers. The airline industry handles an enormous quantity of data from different sources and actions like- reservation system, departure system, baggage management, revenue management, flight control, CRM, website, and many more, thus collating all this data and analysing this effectively becomes very important as it helps the airlines transform from how they operate to how they achieve business excellence.

Flight Turnaround Analytics

Provides insights on process inefficiencies in a flight turnover. The video annotation service helps to capture the time taken by each specific activity within flight turnover using video monitoring used for ground activities

Problem solution Fit:

The airline industry has over the past few months gradually been going into recession. This has been due to a number of factors, all affecting the industry in a negative manner at the same time. This has resulted in low profits and poor performance. The decline in the industry sharply increased after the terrorist attacks on the United States, increasing the urgency to clearly identify the causes of the problems faced and to find any solutions available to

overcome them. One of the factors contributing to the poor performance has been the global economic slowdown whose effect has not been limited to the airline industry but

has extended to many other industries. The effect of this...show more content...But after the demand for military pilots declined, there were cutbacks. Pilot training is now no longer subsidized, forcing pilots to pay for their training. This has a high cost of approximately \$70 000. Action must be taken to solve these problems to prevent more damage to the airline industry. The first step that companies should take is to try and deal with the losses they are making by reducing their costs as much as possible. There are various methods of doing achieving this. Job cuts could be made. This would reduce the cost of wages paid by the companies. However this may be met with opposition from employees. They may take industrial action to help and show support for their fellow employees that have been made redundant. Morale may also come down, as employees no longer feel that their jobs are secure. Companies could try to cutback on the number of planes used. This would reduce the cost of fuel and maintenance. The companies could also raise money through the sale of these unused plane and other assets. But this would mean that some routes would have to be cancelled .

REQUIREMENT ANALYSIS

Functional Requirements	Non-functional Requirements
Describe what the system as a whole should do.	Describe the attributes of system quality and performance.
Cover all the functions that the software must perform.	Cover all aspects of good user experience.
Ensure all core functionality is well-performed.	Ensure users' needs are satisfied.
Easy to specify.	Difficult to specify.
They are tested first.	They are tested after functional testing.
What is tested: API testing, Functional testing of the whole system, integration, End to End testing, etc.	What is tested: Usability, Performance, Security, Stress testing, etc.
Types: Business rules, Administrative functions, Data management, Certification requirements, Authorization levels, etc.	Types: Availability, Scalability, Capacity, Reliability, Data integrity, etc.

Functional Requirements:

Functional requirements are product features that developers must implement to enable the users to achieve their goals. They define the basic system behavior under specific conditions. Business requirements, user requirements, product requirements, functional requirements, non-functional requirements Functional requirements should not be confused with other types of requirements in product management: Business requirements describe the high-level business needs, such as carving a market share, reducing customer churn, or improving the customers' lifetime value. User requirements cover the different goals your users can achieve using the product and are commonly documented in the form of user stories, use cases, and scenarios. Product requirements describe how the system needs to operate to meet the business and user requirements. They include functional requirements and non-functional requirements. Functional requirements may be captured as part of a product requirements document (PRD) or in the form of a separate functional requirements

document (FRD). Here's an example of what such a document may look like in Nuclino, a unified workspace for all your team's knowledge, docs, and projects – create an account and start documenting your requirements in one central place:

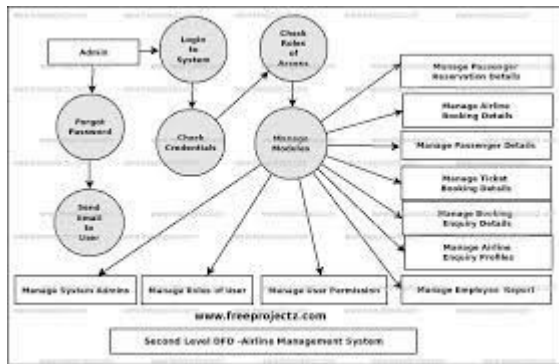
Non Functional requirements:

" Non-functional Avionics Requirements 371 level reached in air transport commercial avionics is characterized by a common open system bus ARINC664 [1], with interfaces to different systems including flight control, engine control, passenger entertainment. Future integration efforts could stretch to include flight control electronics and engine control electronics into “traditional” avionic systems, such as display, navigation, communication, management, even for air transport category aircraft. In the military domain ASAAC (Allied Standard Avionics Architecture Council) is an emerging standard, which includes health- monitoring and in-flight reconfiguration capabilities. Non-functional Avionics Requirements This section presents multiple different avionics NFRs, related to dependability, performance, development, and operation. Security is a NFR that gains importance in integrated avionics as described by Jacob [21], Johnson [22] and Royalty [33] for the commercial airplanes sector. For example, recent approaches of connecting aircraft management networks, passenger entertainment, and avionic system in combination with the deployment of well-known COTS technology such as Ethernet and variants of internet protocols have led to increased security considerations as indicated by a recent FAA inquiry for Boeing's 787 [54]. In a federated architecture each subsystem is physically separate with minimal interaction and largely independent failure behavior from a security perspective.

PROJECT DESIGN

Data Flow Diagrams:

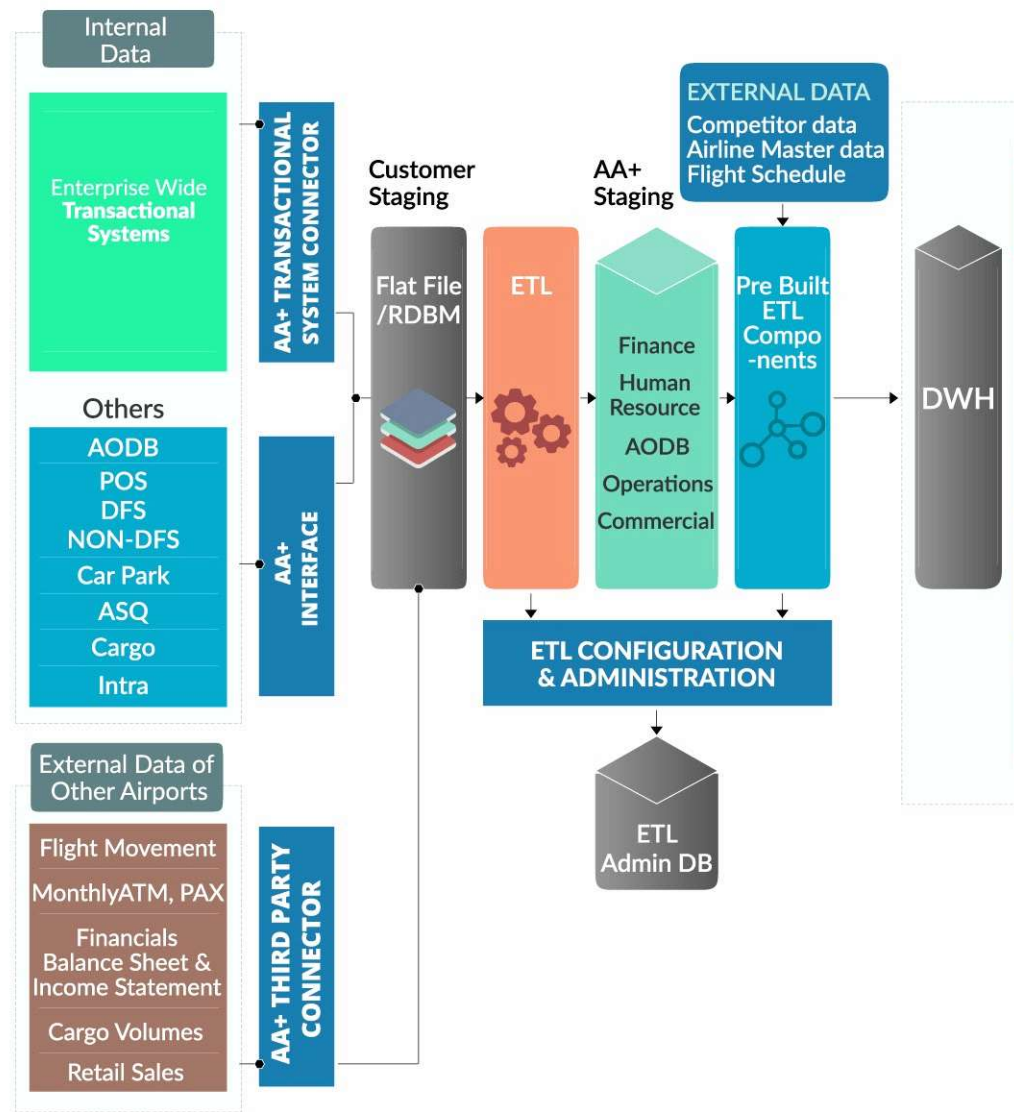
A Data Flow Diagram (DFD) is a graphical representation of the flow of data through an information system (ie: shows business processes and the data that flows between them).



Solution & Technical Architecture:

A technical solutions architect is somebody who helps companies design and delivers range of solutions to their problems. Technical solutions architects need to have the skills and the knowledge to create solutions that fit in with company strategy.





User Stories:

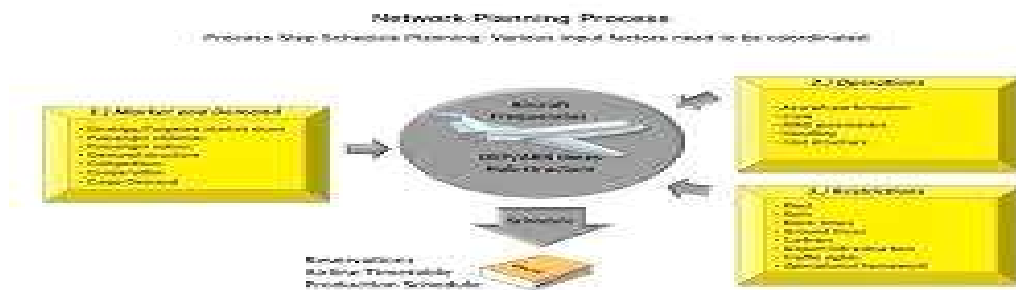
A user story is a software requirement formulated in everyday language and is deliberately kept short. For a deeper dive I would recommend the following article: [How to Write Good User Stories in Agile Software Development](#). User Story Example — Image by Author. In Jira I put the user story in the description field.

PROJECT PLANNING& SCHEDULING

Sprint Planning & estimation:

A flight schedule defines a feasible plan of what cities to fly to and at what times. The task of airline schedule planning is to generate a flight schedule that achieves the most effective use of an airline's resources. Typically, schedule planning is a sequential process

Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole scrum team.



Sprint Delivery & schedule:

The deliverables of a sprint aren't as predictable as they are for other projects. Sprint participants have produced sketches and drawings, writing, photographs, comic strips, videos and fully coded working prototypes. The answer is whatever's right to answer the problem.



Reports From JIRA:

Übersetzungen für Vorgangstypen

Sprache: Englisch (UK) 7 Sprache auswählen 8

Vorgangstyp	Übersetzung
Information	Info 9
Weiterführende Informationen	Further information
Entwurf	Draft
Projekt in der Vorbereitungsphase	
Termin	Appointment
Bevorstehender Termin	
Aufgabe	Task
Aufgabe die erledigt werden soll	
Testtype	

10 Speichern Verwerfen

Administration JIRA-Admin durchsuchen

Projekte Vorgänge **Benutzerverwaltung** System Add-ons

Projektrollen für Benutzer bearbeiten: Ines Schneider

Über diese Bildschirmmaske können Sie einen Benutzer einer Projektrolle hinzufügen bzw. daraus entfernen, indem Sie die Kontrollkästchen aktivieren bzw. deaktivieren.
Hinweis: Ein Gruppenname (in Klammern) zeigt an, dass die Gruppe Mitglied der Projektrolle und der Benutzer Mitglied der Gruppe ist. Somit ist der Benutzer ein indirektes Mitglied der Projektrolle.

Projekte	Administrators	Developers	Meeting Administrator	Meeting Secretary	Meeting User	Users
Nicht kategorisierte Projekte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consulting Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> (jira-users)
Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (jira-users)
Test 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (jira-users)
Testprojekt 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (jira-users)
tblub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (jira-users)








3 Speichern Abbrechen

CODING AND SOLUTIONING

Database schema skeleton structure of and it represents the logical view of entire database. It tells about how the data is organized and how relation among them is associated. It formulates all database constraints that would be put on data in relations, which resides in database. A database schema defines its entities and the relationship among them. Database schema is a descriptive detail of the database, which can be

depicted by means of schema

diagrams. All these activities are done by database designer to help programmers in order to give some ease of understanding all aspect of database. database instances, is a state of operational database with data at any given time. This is a snapshot of database. Database instances tend to change with time. DBMS ensures that its every instance (state) must be a valid state by keeping up to all validation, constraints and condition that database designers has imposed or it is expected from DBMS itself.

						
Park/ Taxi	Take-Off	Depart/Climb	En-Route	Approach	Landing	Park/ Taxi
<ul style="list-style-type: none"> • Out • Link/Test Clk • Updates • Fuel Reports • Crew Info • Delay Reports 	<ul style="list-style-type: none"> • Off • Engine Data 	<ul style="list-style-type: none"> • Engine Data 	<ul style="list-style-type: none"> • Position Reports • Weather Reports • Delay Information • ETA • Performance Reports • Voice Requests • Engine Data • Maintenance Information • Oceanic ADS 	<ul style="list-style-type: none"> • Gate Info • Requests • ETA • Special Requests • Engine Data • Maintenance Information 	<ul style="list-style-type: none"> • On 	<ul style="list-style-type: none"> • In • Fueling Data • Crew Information • Fuel Reports
FROM AIRCRAFT						
TO AIRCRAFT						
<ul style="list-style-type: none"> • PDS • ATIS • DDTC • Weight & Balance • Flight Plans 		<ul style="list-style-type: none"> • Weather Reports 	<ul style="list-style-type: none"> • Re-Routing Information 	<ul style="list-style-type: none"> • Re-Routing Information • TWIP • Oceanic Clearances 	<ul style="list-style-type: none"> • Gate Information • Passenger Information • Crew Information 	

AIRPORT SOFTWARE SOLUTIONS

	AODB	Baggage handling	Resource management	Terminal management	Staff management	Reporting	Invoicing and billing	Air traffic management	Cybersecurity
Damarel Systems International LTD		◆	◆	◆	◆	◆	◆	◆	
Collins Aerospace	◆	◆	◆	◆		◆			◆
SITA	◆	◆	◆	◆	◆	◆	◆		◆
NEC		◆	◆	◆				◆	◆
Airport Information Systems		◆	◆	◆		◆	◆	◆	
Amadeus IT Group	◆	◆	◆	◆	◆	◆	◆		
Pacific Controls		◆	◆	◆	◆	◆	◆	◆	
ISO-Gruppe	◆	◆	◆	◆	◆	◆	◆		



TESTING

Test Cases:

Functional Regression Testing: Tests the correct operation of the program and the changes introduced (“does it do what it is supposed to do?”) and verifies that no additional errors are being introduced with the program changes.

Performance and Load Testing: Tests the speed and usage of the program to ensure it will be capable of providing the services at the level required. Ensures the end-to-end

performance of the new program and all other impacted systems. What We Offer Let's explore Capgemini's approach to each of these components: Project Governance studies the airline's requirements for testing, the deadlines required to provide consultancy, and project management expertise to produce the most appropriate testing strategy and schedule for its system integration. Our consultants draw on their experience and knowledge to ensure that the project is correctly managed, monitored, controlled and provides the appropriate deliverables and reporting. It can be delivered as a "stand-alone" component. Configuration Management involves identifying configuration items and systematically controlling the changes to them. We institute a number of activities that enable us to specifically control the testing environment and make it more efficient and reliable, ensuring high quality. They are:

- Assign explicit responsibility for configuration
- Implement Configuration Management throughout the project's entire lifecycle
- Ensure Configuration Management is used for all externally deliverable software products, designated internal software work products and designated support tools used for the project
- Establish access to a repository for storing configuration items and their essential records
- Audit software baselines and Configuration Management activities on a periodic basis. All of these activities are handled in close coordination with Test Data Management throughout the project lifecycle. With our Functional Regression Testing Process, Capgemini can provide a maximized set of automated and reusable test cases, providing the airline with an optimal and efficient testing solution. Performance and Load Testing covers the testing of not only the robustness and performance of the new program, but also of the whole end-to-end service that the airline provides to its customers (including all airline systems and terminals). The recommended changes often impact other internal airline IT systems and may require a larger, more holistic overview of what needs to choose.



User Acceptance Testing:

This paper is thought paper instead of white paper, because the content and questions that are addressed are more from emerging thoughts out of experience and user's attitude towards quality of software. Besides, it will leave us with some thoughts and questions to be answered.... Let us demystify the subject we will cover in few paragraphs now. We will spare thoughts on User acceptance testing of software (UAT). I wish to highlight three aspects, one software testing (UAT) is critically essential for quality of software, second it is a continuous process, and third it requires something beyond just testing and that is what I call management of quality. Let me touch up on some myths about software testing, especially from end users' point of view.



RESULTS

Performance Metrics:

Cost per Available Seat Kilometre (CASK) and Revenue per Available Seat Kilometre (RASK) are two measures of an airline's performance; however, given the dynamic and diverse nature of the airline industry in today's world, these two metrics may no longer be sufficient to

evaluate a carrier's level of success. Flightplan spoke to two industry experts to understand if the RASK and CASK are now past their sell-by date. But first, let us examine how these metrics work.

Airlines use the RASK metric to measure the total operating revenue generated per seat (empty or full) per km flown. For example, IndiGo's RASK for the April-June quarter of 2022-23 was ₹4.69 versus ₹2.73 for the same period the previous year. Meaning, the airline earned

₹4.69 for every seat and kilometre flown, which was 72 per cent higher than the last year. IndiGo's CASK for the April-June quarter was ₹5.08 compared with ₹5.55 the previous year. The airline's cost per km went down 8.5 per cent. While these figures indicate an airline's performance, critics are not impressed. Easy but inaccurate Steve Saxon, Partner, McKinsey & Company, told BusinessLine that while CASK is easy to measure, it has several inaccuracies. "CASK also includes the costs incurred by non-passenger divisions. Comparisons are almost impossible between carriers that aggregate freight or third-party maintenance operations in their financial reports. The carriers' different accounting policies also bedevil the attempts to compare CASKs. CASK neither gives companies deep insight into their costs nor identifies concrete levers to reduce them," Saxon said.

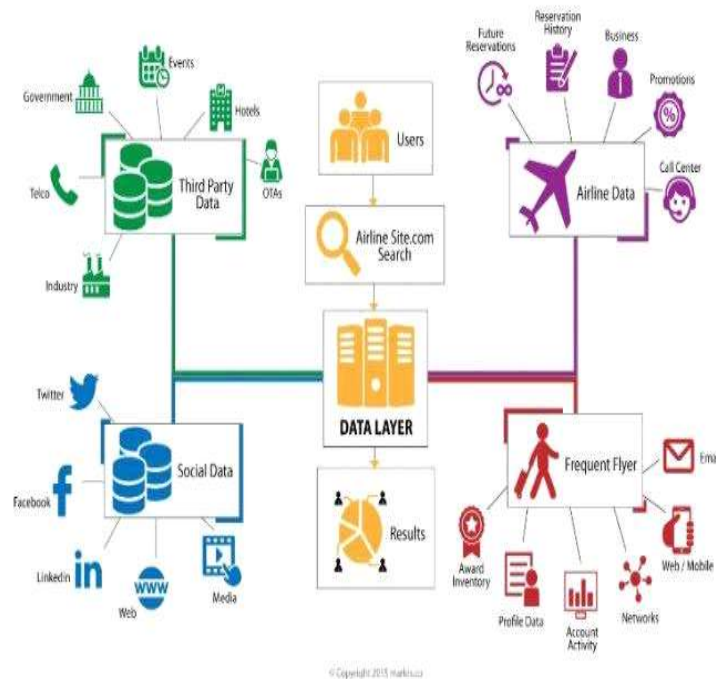
Carriers based in the same region may have different network and fleet strategies

and therefore use different kinds of fleets to serve similar networks. In the past, for example, two middle eastern carriers, had roughly the same CASK (8 \$ cents) and passenger-haul length (6,000 kilometres). Yet one flew a wide-body only fleet, while 30 per cent of the other consisted of narrow-body aircraft. Therefore, Saxon believes that airlines should look at cost drivers. While the airline does not control the fuel price, it controls the efficiency. So, measuring fuel consumption in gallons per block-hour is a much better metric than CASK.

ADVANTAGES

: Big data analytics is making it easier to provide better customer service in the aviation industry. Some of the benefits include reduced operational costs, better passenger satisfaction, and crisis management.

It can be used to predict future glitches, prevent them from happening, and make the maintenance procedures more accurate and thorough. As a result, it is possible to lower costs related to maintaining an aircraft. One of the companies using big data analytics this way is Boeing.



DISADVANTAGES

Aviation affects the environment in many ways: people living near airports are exposed to noise from aircraft; streams, rivers, and wetlands may be exposed to pollutants discharged in storm water runoff from airports; and aircraft engines emit pollutants to the atmosphere.

Four Identified Categories for Operational Risk at Airlines

Loss of Control in Flight (LOC-I); Runway Safety; Fatigue Risk Management; and. Controlled Flight into Terrain (CFIT).

Ongoing COVID-19 Disruption. ...

The Ongoing Impact of Brexit. ...

Rising & Unstable Fuel Prices. ...

Global Instability & The Threat of War. ...

Staff Shortages & Changing Demographics. ...

Airport Capacity Issues. ...

Pilot Shortages. ...

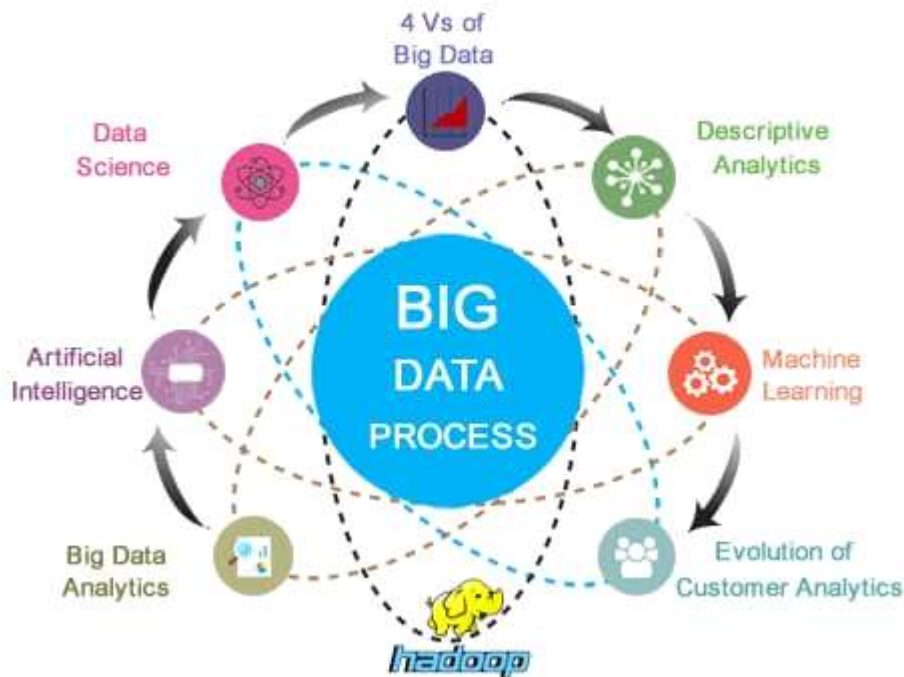
Uncertainty Over Business Travel.

CONCLUSION

New ways to connect with a customer and real-time access to data Technology is drastically changing the way businesses connect with their customers, take business decisions, and build workflows. No doubt, the world of aviation has been affected too: data is transforming airlines from pre-flight to post-flight operations, including ticket purchase, seat selection, luggage, boarding, ground transportation, etc. Hence, the data required for dozens of use cases is captured along the various components of a passenger's journey. We don't book a flight via phone anymore; we don't go to the travel agencies in search of the best offers. Instead, we have real-time access to data that, in its turn, allows organizations to take informed steps towards operational efficiency and improved customer experience. The airline industry of today is highly competitive, generating billions of euros every year with a cumulative profit margin of less than 1%.

The key reason for this can be explained by the industry's extremely complex landscape and by

the fact that modern airlines have many pending business issues, such as globally uneven playing field, revenue vulnerability, an extremely variable planning horizon, high cyclical and seasonality, fierce competition, excessive government intervention and high fixed and low marginal cost.



What are the benefits of big data analytics?

The ultimate benefits of big data analytics include timely responses to current and future market demands, improved planning and strategically aligned decision making, as well as crystal clear comprehension and monitoring of all main performance drivers relevant to the airline industry. When properly followed, the positive outcomes of the above mentioned benefits encompass lower operating costs, better customer service, market leading competitiveness and increased profit margin and shareholder value.

So, what are exactly the ways data analytics is transforming airlines?

- Increase in airline revenue

Data analytics helps the industry to understand customers' preferences and other

maintenance issues. For instance, analysis of ticket booking helps the industry to target the customers with personalised offers while optimising the price in real-time using predictive analysis techniques. As a result, by gathering meaningful data, airlines can fetch more bookings in the given timeframe.

One should seriously consider revenue management based on the idea that customers perceive product value differently, so the price they are ready to pay for it depends on target groups they belong to and purchase time. Hence, revenue management specialists make good use of AI to define destinations and adjust prices for specific markets, find efficient distribution channels, and manage seats to keep the airline simultaneously competitive and customer-friendly.

- Smart maintenance

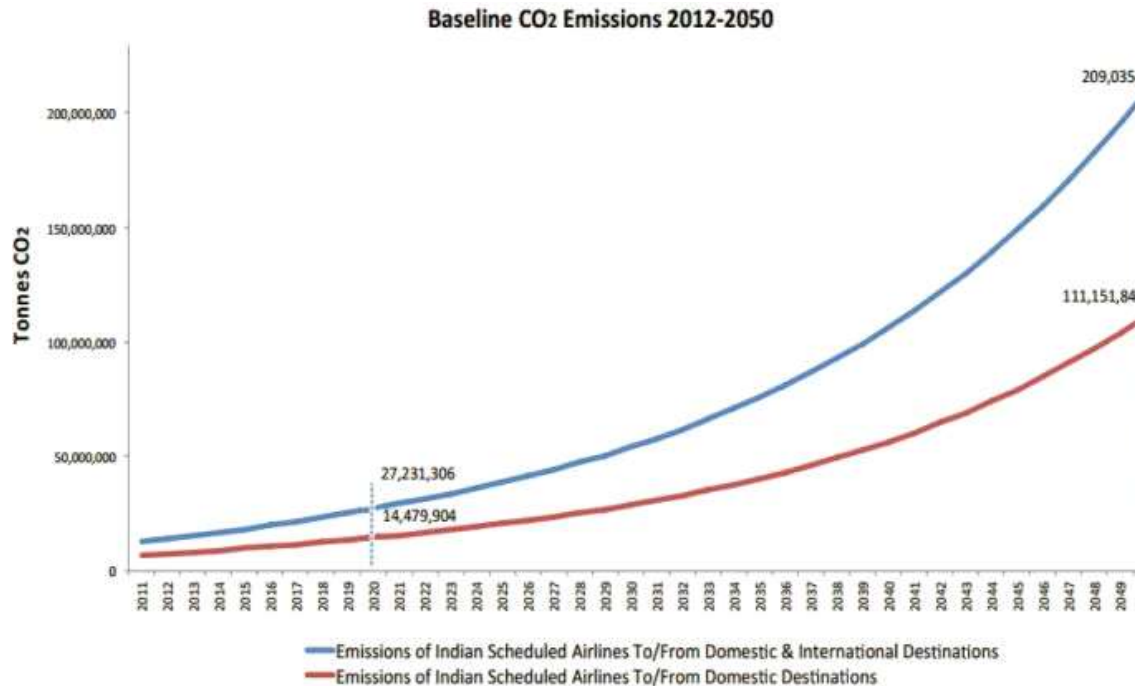
Due to the use of smart data analytics, passengers will avoid many issues with baggage tracking. While radio-frequency identification prevents mishandling the baggage, predictive analysis assists in improving the predictability of fleet reliability. With the airport traffic increasing day by day, big data analytics will enable the airlines to keep on working on the optimization of the airspace use, especially when it comes to runway bandwidth, flight routes, types of aircraft, etc.

To illustrate, airlines bear high costs due to delays and cancellations that include expenses on maintenance and compensations to travellers stuck in airports. With nearly 30 % of the total delay time caused by unplanned maintenance, predictive analytics applied to fleet technical support is a reasonable solution.

Carriers deploy predictive maintenance solutions to better manage data from aircraft health monitoring sensors. Usually, these systems are compatible with both desktop and mobile devices, granting technicians access to real-time and historical data from any.

FUTURE SCOPE

The aviation industry is one of the first industries to adopt new technologies like Big Data and AI. As a result of this integration, flight operators and airports can now cater to the ever-increasing passenger base in a much more structured and profitable way. Read on to find out how.



Big data analytics is making it easier to provide better customer service in the aviation industry. Some of the benefits include reduced operational costs, better passenger satisfaction, and crisis management. Airport authorities and flight operators around the world are investing in data specialties to get this competitive edge over other players.

Let's start this discussion by asking a very simple question – When was the last time you went to a flight booking office (at the airport or elsewhere) and booked a flight ticket? For most millennials, the answer is going to be, 'never!' Thanks to the rapid adoption of digital technologies in the aviation industry, taking a flight is a run-of-the-mill affair that requires nothing but a mobile device and the internet. While every industry has hopped onto the technology bandwagon, hospitality and aviation have taken it to the next level. Major operators have seen a paradigm shift in their customer service using new-age technologies like Big Data and Artificial Intelligence. In recent years, with advancements in Big Data Analytics, the aviation industry has been one of the first to integrate data analytics at its core. This integration has resulted in unprecedented growth in almost every aspect of the aviation industry, right from better customer reach to improved customer satisfaction.

With so many changes happening at the core, the industry is expanding its scope very fast. As a result, there is an ever-increasing need for skilled professionals to join the industry and tap this pool of information. At Avlon Shiksha Niketan, one of the best tourism, hospitality,

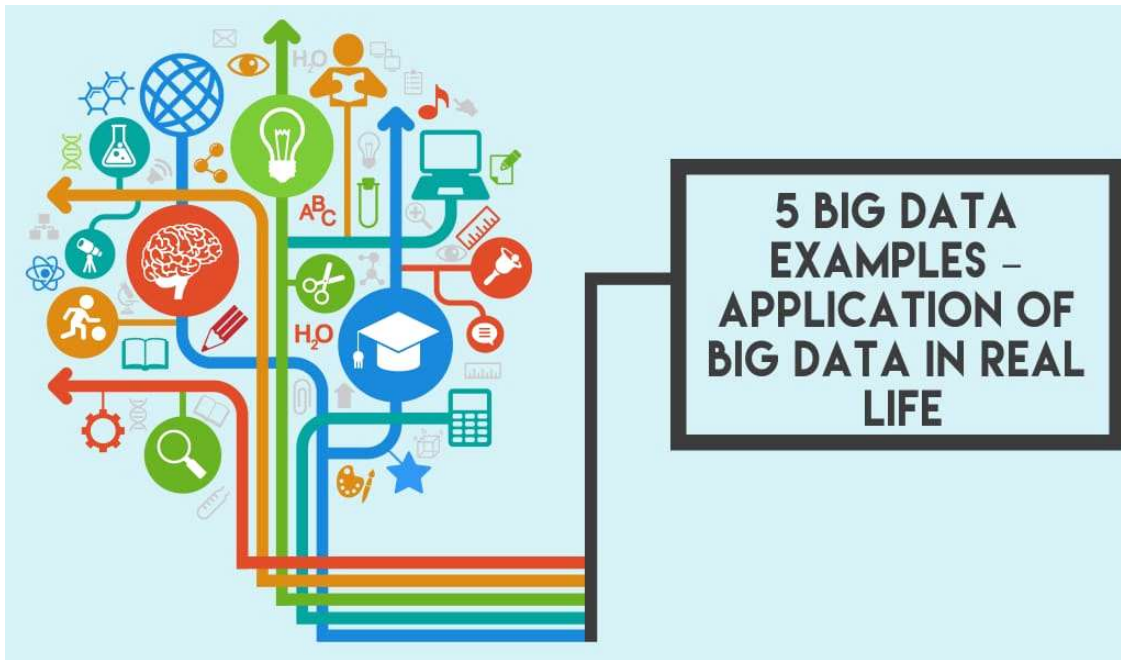
and aviation colleges in Kolkata, we offer industry-relevant courses to help aspiring students pace with changing scenarios and be job-ready. In this blog today, let's discuss one of these revolutionary technologies, i.e., Big Data Analytics, and how it is helping to transform the aviation sector for the better. Happy reading!

Why do we need technology (not just Big Data but any new technology, in general)? While there are multiple ways of looking at the role of technology (and all of them are correct), no matter your starting point, the ultimate goal of technology is to improve human life by reducing manual effort and increasing output. In essence, technology should be able to add value to a work process and remove obstacles. So, what are the main benefits of using data analytics modules in the aviation sector? Is it only limited to understanding a customer's purchase behavior? Or does it have other long-term benefits? Read on to find out more.

It improves the average turnaround time needed to cater to customers. Properly implemented data modules help flight operators bag more customers and profits. Predictive analytics is the key to preparing for future crises and putting a mitigation plan in place. It helps businesses make data-backed and more informed policy decisions. Not just sales and customer service, data analytics play a vital role in flight operations and maintenance too. As a result of the above, implementing a data collection and analytics module has several short and long-term benefits for the operator like competitive pricing, enhanced customer satisfaction, edge over competitors, and better profit margins. As one of the most highly trusted aviation colleges in Kolkata...

APPENDIX

The portion of an airport that contains the facilities necessary for the operations of aircraft. An appendix contains supplementary material that is not an essential part of the text itself but which may be helpful in providing a more comprehensive understanding of the research problem or it is information that is too cumbersome to be included in the body of the paper.



TRB's Airport Cooperative Research Program (ACRP) Web-Only Document 1: Analysis and Recommendations for Developing Integrated Airport Information Systems is a summary of the efforts associated with the development of ACRP Report 13: Integrating Airport Information Systems. ACRP Report 13 is designed to help airport managers and information technology

professionals address issues associated with integrating airport information systems. National Academies of Sciences, Engineering, and Medicine. 2008. Analysis and Recommendations for Developing Integrated Airport Information Systems. Washington, DC: The National Academies Press.

GitHub Link:

<https://github.com/IBM-EPBL/IBM-Project-53737-1661491921>