The Definitive Airline Operations & KPI Guide

71 PAGES OF HIGH-QUALITY KPI, DASHBOARD & INNOVATION CONTENT

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GOOD TO HAVE YOU HERE

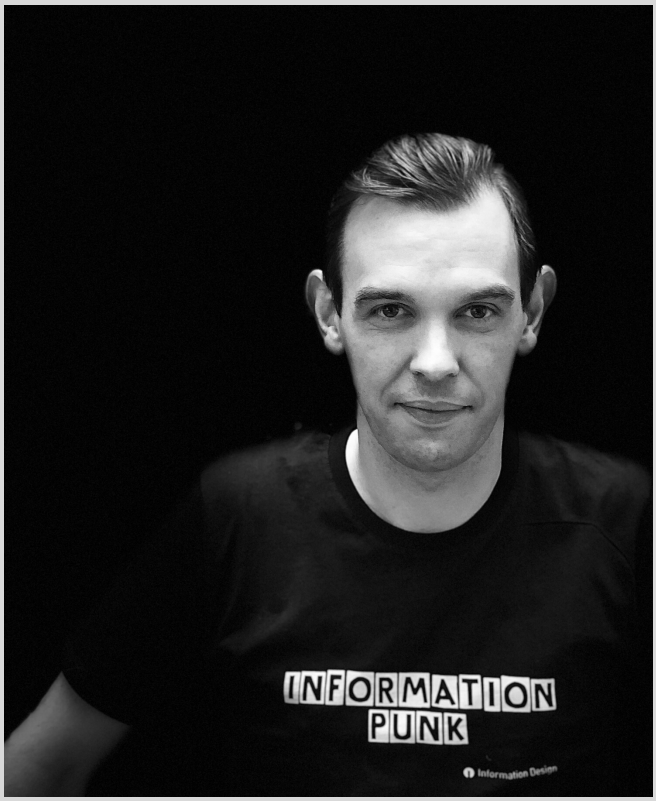
Welcome to our first ever published Airlines Operations & KPI Guide.

It is my pleasure to welcome you and I want to personally thank you for downloading this eBook.

With the following pages I guide you through the world of airline operations, key performance indicators, dashboards and real-time information.

For this edition we've put together 17 articles and I hope it provides some valuable thoughts for you and helps you to drive your airline's performance.

Benjamin Walther
CEO, Information Design



"WE SHOULD STOP OVERVALUING THE THINGS WE DON'T UNDERSTAND AND START EXECUTING WHAT IS POSSIBLE NOW"

TABLE OF CONTENTS

ABOUT US

Information Design

Information Design was founded in 1996 with the clear vision to turn aviation data into valuable and insightful information - with the goal not only to create information but also to design it.

Dedicated to this idea, Information Design grew steadily to more than 60 employees at its head-quarters in Frankfurt and attracted internationally renowned and leading airlines, airports and aviation-companies.

Today our products are used by some of the most successful airlines in the world, for example Lufthansa, Austrian Airlines, Icelandair, Swiss International Airlines, Volotea and many more.

"WE ARE A PASSIONATE COMPANY FILLED WITH PASSIONATE INDIVIDUALS FROM ALL OVER THE WORLD."

ABOUT THE AUTHOR

Benjamin is an aviation-enthusiast, a music-maniac, and CEO of Information Design (in this order).

His daily business revolves around pioneering solutions with the aim to change the aviation industry. His visions are based on expertise gained in more than 15 years in the industry, and working with renowned airlines such as Lufthansa, Emirates, Air India, Aegean Airlines, Saudia Airlines, S7, Icelandair and many others.

He shares his thoughts, ideas and concepts on weekly blogs, podcasts and videos.

Make sure to follow him on his essential social media channels or get in touch with him directly:

Ben on LinkedIn
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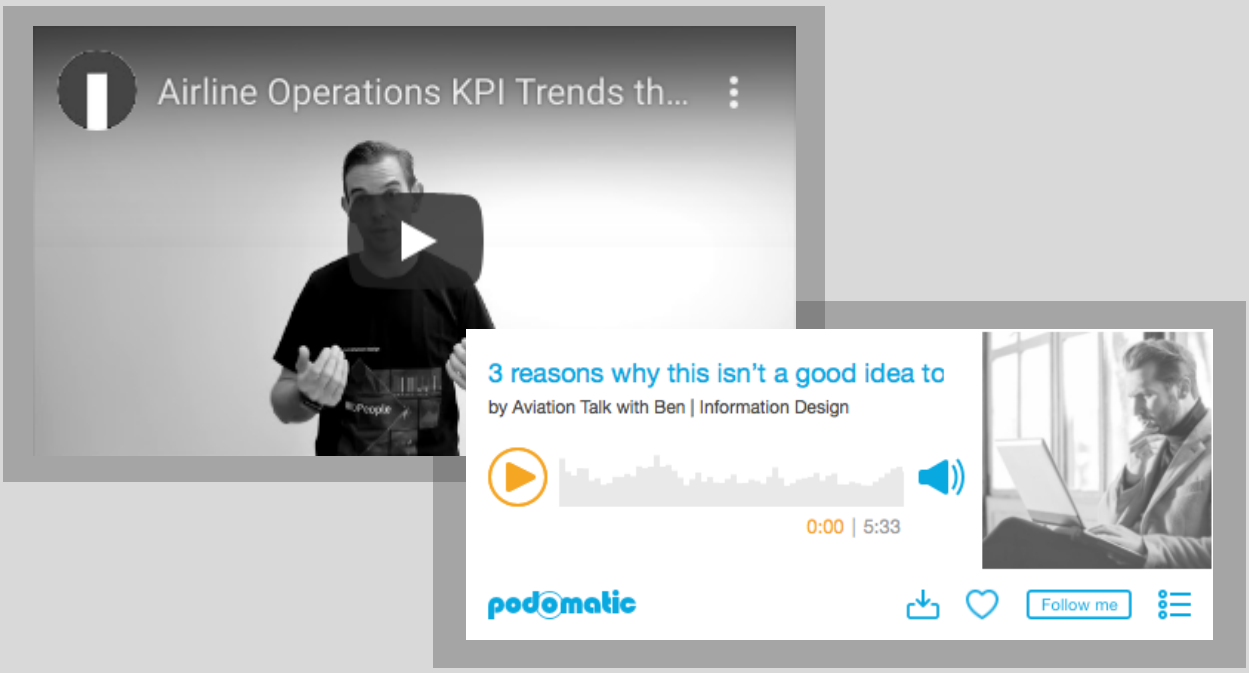
WATCH AND LISTEN TO OUR LATEST THOUGHTS AND IDEAS



Follow us on YouTube and tune in to our Podcasts on Podomatic, Spotify or Apple Podcasts

Don't miss the opportunity to get best-tips, new approaches and valuable knowledge about airline operations and key performance indicator.

A:Wall

Where Operations Happen.

Source: lufthansa.com

With the A:Wall we've designed a solution to provide managers and decision-makers a new level of situational awareness. The A:Wall lets you be aware of your operations and your most important performance indicators — at any time from wherever you are.

It's the ideal solution to create awareness for your most relevant performance facts. Either on large screens to equip your Operations Control Center, executive offices or hotspots or on-the-go to access your KPIs with the tablet or mobile.

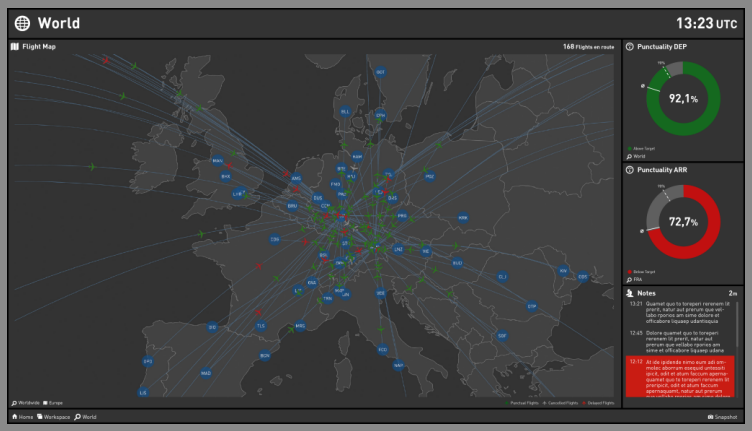
The A:Wall was developed to provide you real-time information. Every piece of information, every performance indicator is processed calculated and visualized in real-time. That's why you no longer have to rely on daily, weekly, monthly reports. And we paid the highest attention when designing the A:Wall. Every color, every font, and every icon has been selected to enable viewers getting the essence in a split-second.

OVERVIEW OF ARTICLES

4 ESSENTIAL CONTENT TYPES AN AIRLINE DASHBOARD MUST HAVE (PLUS EXAMPLES)

KPI & DASHBOARD/ 8 MIN READ

I've set up so many airline dashboards during the last years. Dashboards for all types of airlines: Huge network carriers, regional operators, and low-cost airlines. And when it comes to an operations dashboard, all of them have some specific requirements. This is quite logical since they are operating different business models and probably aiming for different goals.



World Map + Top KPI Workspace

DASHBOARD CONTAINS WORKSPACES

A dashboard usually contains a set of so-called workspaces. A workspace visualizes different information and KPIs and is shown for a defined time before the next workspace is displayed. The number of workspaces differ widely. I've worked with user groups at airlines that had particular use cases. Therefore, they only required one or two workspaces. On the other end, some users set up dashboards with more than 20 workspaces. Nonetheless, what I've observed when setting up dozens of dashboards is that most of them have four workspaces in common.

I always like to call those four workspaces the dashboard fundament. Of course, the workspaces most often look slightly different for each airline and each user group at an airline — but all of them are based on the workspaces I'm going to introduce to you below.

WORLD MAP + TOP KPI WORKSPACE — THE MOST IMPORTANT AIRLINE DASHBOARD CONTENT

The world map provides an overview of currently operated flights.

4 ESSENTIAL CONTENT TYPES AN AIRLINE DASHBOARD MUST HAVE (PLUS EXAMPLES)

Of course, in case you are only operating in specific parts of the world, you don't have to show the entire world map but only required regions. The world map is aiming to provide awareness and status of your current flights. Besides a perfect overview, we also observed that the world map reflects a considerable asset in terms of emotional motivation. The essential KPIs usually accompany the world map: Departure Punctuality, Arrival Punctuality, Regularity, or Delay Minutes, for example.

FLIGHT LISTS + KPIS WORKSPACE

One of the most critical information an operational dashboard has to include is about upcoming arrivals and departures. We like to visualize that kind of information quite traditional in two separate lists. Very often, the lists are tailored to specific airports or even focusing on one single hub only. However, from our point of view, simply showing a list of flights won't do the trick. Conversely, there are two critical aspects to consider when visualizing arrival and departure flight lists.

Add useful flight information

Solely showing a flight number doesn't provide a huge benefit. One crucial advice to enrich the flight list with helpful information.

Flight List + KPIs Workspace

In our example, we are showing attributes, for example, ETA, delay reasons, number of passengers, delay minutes, etc. This helps to assess the status of a flight.

Use color highlighting to enrich your airline dashboard content

Develop a color highlighting concepts that highlight flights according to different rules (specific delay minutes, ground time insufficiency, etc.). This will bring two massive advantages: On the one hand, you can quickly identify single flights with a specific problem, and on the other hand,

4 ESSENTIAL CONTENT TYPES AN AIRLINE DASHBOARD MUST HAVE (PLUS EXAMPLES)

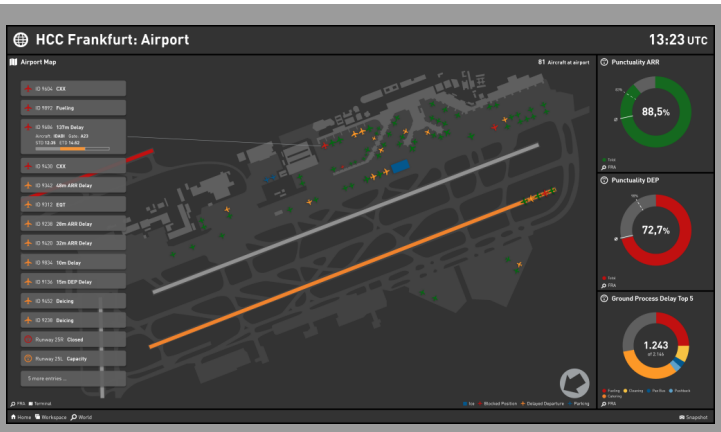
you can quickly assess the overall situation of your operations according to the overall coloring of the flight list. With our product, we defined several rules, but all are aiming for the same benefit: In case the flight list is mostly black/white, operations run smooth. In case the dashboard, more and more turns yellow problems start to rise. And if you can spot a lot of red on your dashboard, you are facing massive problems.

WEATHER WORKSPACE — COMPLETING YOUR AIRLINE DASHBOARD CONTENT

Especially when it comes to medium and long-haul operations, the importance of accurate weather information is enormous. Since there are many providers for weather data (METAR, TAF), it is relatively easy to integrate this kind of information. The challenge we observed is in translating the information (METAR and TAF are quite cryptic for many people). That's why we put a lot of effort into visualizing the text-based information. Additionally, to avoid an information overflow, it makes sense to pay attention to highlighting specific aspects (exceptional winds, clouds, thunderstorms, etc.).

Last but not least, we strongly advise to include airport information within your operational dashboard.

AIRPORT WORKSPACE



Airport Workspace

From our point of view, this should include information about current aircraft at an airport and their position. Similar to world maps and flight lists, it makes sense to include additional information on flights. And again, use color highlighting to highlight problem-related aircraft. Additionally, you can add airport-specific information, for example, runways usage and closure.

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

KPI & OPERATIONS / 6 MIN READ

The most successful airlines are successful because they keep tracking and monitoring their airline operations KPIs. They're literally swimming in data and performance indicators. These airlines understood that every decision has to be based on data and KPIs.

If you don't know your performance at every point in time, you have no idea and no possibility to improve. That's why you have to keep a close eye on your KPIs, especially in operations.

AIRLINE OPERATIONS KPIS — OUR MOST PRECIOUS KNOWLEDGE

With this article, we share a part of our most precious knowledge. Knowledge that has been gathered from KPI projects with airlines around the globe. From large flag carriers to charter and low-cost operator. From network airlines to point-to-point and regional carriers.

Throughout these projects, we defined and set up nearly 100 different airline operations KPIs. Some of the KPIs are common, but some are also very particular.

65 AIRLINE OPERATIONS KPIS

For this article, we put together 65 of these KPIs. We have clustered these KPIs according to different operational aspects. What's the idea behind? We wanted to create a source for thoughts for you.

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

- **GENERAL OPERATIONS KPIS**
- **PASSENGER KPIS**
- **OPERATIONS CONTROL KPIS**
- **CONNEX MANAGEMENT KPIS**
- **WEIGHT & BALANCE KPIS**
- **BAGGAGE MANAGEMENT KPIS**
- **PUNCTUALITY MANAGEMENT KPIS**
- **FUEL & ENVIRONMENT KPIS**
- **MAINTENANCE KPIS**
- **CREW KPIS**
- **PERFORMANCE KPIS**

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

GENERAL OPERATIONS KPIS

- Arrival Delay: Amount of delay minutes for all arrived flights.
- Arrival Punctuality: Share of flights with an arrival delay in relation to the total number of operated flights.
- Arrivals: Basic KPI counting the number of arrived flights.
- Cancellations: Number of canceled flight for a specific period.
- Cancellation Rate: Share of canceled flights in relation to the total number of operated flights.
- Delay Minutes: Amount of delay minutes of all departed flights.
- Delay Reasons: Delay minutes clustered according to delay reasons.
- Departure Delay: Amount of delay minutes of all departed flights.
- Departure Delay per Passenger: Total amount of delay minutes in relation to the total amount of passengers transported.
- Departure Delay per Flight: Total amount of delay minutes in relation to the total amount of flights operated.
- Departures: Basic KPI counting the number of departed flights.
- Departure Punctuality: Share of flights with a departure delay in relation to the total number of operated flights.
- Diversions: Basic KPI counting the number of diversions.
- Regularity: Number of departures in relation to all scheduled flights for a period.
- Utilization: Share of check-in or boarded passengers in relation to available seats of all departed flights.
- Seat Load Factor (SLF): SLF is the dimensionless ratio of passenger-kilometers traveled to seat-kilometers available

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

PASSENGER KPIS

- Passengers en Route: Sum of all boarded passengers for flights en-route.
- Transported Passengers: Sum of all transported passengers for a specified period (often clustered according to compartments).
- Satisfied Passenger Quota: Share of passengers having arrived on-time in relation to all transported/checked-in passengers.
- Unsatisfied Passengers: Share of passengers having arrived late or not at destination in relation to all transported/checked-in passengers.
- Disruption Affected Passengers: Sum of passengers affected by major (cancellation, diversion, etc.) or minor (delay) disruptions.

OPERATIONS CONTROL KPIS

- Aircraft Changes: Number of performed aircraft changes for a specified period.
- Equipment Changes: Number of performed equipment changes for a specified period.
- Gate Changes: Number of performed gate changes for a specified period.
- Crew Changes: Number of performed crew changes for a specified period.
- Number of irregularities: Amount of irregularities (for example delays, aircraft changes, diversions, etc.) for a specified period.
- Irregularity ratio: Number of flights affected by an irregularity in relation to all flights operated.

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

CONNEX MANAGEMENT KPIS

- Misconnex Passengers: Number of checked-in passengers failed to connect to onward flight.
- Misconnex Quota: Share of checked-in passengers failed to connect to onward flight in relation to all passengers with an onward flight.
- Minimum Connecting Time Sufficiency: Share of passengers failing to connect to onward flight and a connecting time > minimum connecting in relation to all misconnex passengers

WEIGHT & BALANCE KPIs

- Baggage Weight: Amount of transported baggage in tons.
- Bags on Board: Amount of bags for all flights with ATD and without ATA.
- Cargo Weight: Amount of transported cargo in tons.

BAGGAGE MANAGEMENT KPIS

- Left Behind Index: Share of all bags left at origin airport in relation to total bags.
- Left behind bags: Amount of bags left at origin airport.
- Mishandled Baggage Index: Share of all bags not arriving at the destination airport in relation to total bags.
- Mishandled bags: Amount of bags not arriving at the destination airport.

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

PUNCTUALITY MANAGEMENT KPIS

- Ground Time Recovery: Share of flight with a delayed arrival (ATA > STA) and on-time departure of consecutive flight, in relation to all delayed arrivals.
- Ground Time Sufficiency: Share of flights with an on-time arrival and on-time departure in relation to all arrived flights.
- Block Time Recovery: Share of flight with a delayed departure (ATD > STD) and on-time arrival, in relation to all delayed departures.
- Block Time Sufficiency: Share of flights with an on-time departure and on-time arrival relation to all arrived flights.
- Aircraft Readiness: Amount of flights where aircraft have been ready at boarding begin in relation to all flights operated.
- Standby Aircraft Availability: Amount of standby aircraft available.
- Average Taxi-In / Taxi-Out Time: Average time between touchdown and on-blocks / off-blocks and airborne of aircraft. The KPI is usually only tracked for important hubs / home bases.

FUEL & ENVIRONMENT KPIS

- Fuel Consumption: Total amount of fuel burned for a specific period.
- Fuel Consumption per Passenger: Total amount of fuel burned in relation to transported passengers.
- Fuel Consumption per Passenger Kilometer: Total amount of fuel burned in relation to operated passenger-kilometer.
- CO2 Consumption: Total amount of CO2 generated for a specific period.
- CO2 Consumption per Passenger: Total amount of CO2 generated in relation to transported passengers.
- CO2 Consumption per Passenger Kilometer: Total amount of CO2 generated in relation to operated passenger-kilometer.

65 AIRLINE OPERATIONS KPIS TO TRACK FOR IMPROVED OPERATIONS

MAINTENANCE KPIS

- Planned Events: Number of planned maintenance events, clustered according to event type.
- Unplanned Events: Number of unscheduled maintenance events for a specific period.
- Standby Aircraft Utilization: Amount of time standby aircraft have been used in relation to the available aircraft standby time.
- Release to Service: Percentage of aircraft being released to service on-time.
- AOG: Number of AOGs for a specified period.Standby Aircraft Availability: Number of standby aircraft available.

CREW KPIS

- Standby Crew Availability: Amount of standby crews available, clustered according to positions.
- Crew Bus Punctuality: Amount of flights where crew bus arrived on-time at the aircraft.
- Crew Changes: Amount of flights where crew is required to change the aircraft in relation to all flights operated (clustered according to cockpit and cabin crew).
- Crew Readiness: Amount of flight where the crew has been ready at boarding begin in relation to all flights operated.
- Crew en Route: Number of cockpit and cabin crew currently en route.

PERFORMANCE KPIS

- Aircraft Utilization / Productivity: Amount of total block hours in relation to available hours (depending on definition).
- Profitability: Overall profitability or clustered to aircraft types, routes or traffic regions.
- Profitability Ratio: Number of flights operated profitable in relation to all operated flights.
- Compensation: Amount of compensation to be paid, according to delayed/cancelled flights and related aspects (passengers, delay reasons, traffic region, etc.).

REFERENCES

12 AIRLINES WITH MORE THAN 850 AIRCRAFT AND 5,000 DAILY FLIGHTS ARE SITUATION-AWARE WITH A:WALL.

3 USE CASES LINKED TO AIRLINE REAL-TIME DASHBOARDS YOU'VE NEVER THOUGHT ABOUT

KPI & DASHBOARD / 8 MIN READ

The primary use case of an airline operations real-time dashboard is about visualizing information and KPIs. No doubt about it. However, a dashboard infrastructure —at least when talking about our product setup— collects a vast amount of data from different sources (flight data, passenger data, airport data, etc.). Based on that three use cases can be realized. All of them providing a huge potential without substantial additional investment.

LET'S STARTS WITH THE BASICS FIRST

To present real-time KPIs and information, an infrastructure is required that collects, processes, and stores data. For example, with our product, the A:Wall, we operate a data warehouse that is tailored to these tasks. That data warehouse is tailored to collecting data from different sources / systems, to process it and to archive it in a structured way.

Displaying the information within the dashboard or on your mobile is finally only the icing on the cake. Most of the effort is linked to collecting and processing data but not to visualizing it. When discussing the setup with clients some years ago, we identified the possibility of using this data also for other use cases — instead of showing it on dashboards only.

3 USE CASES LINKED TO AIRLINE REAL-TIME DASHBOARDS YOU'VE NEVER THOUGHT ABOUT

Accordingly, that means we are not talking about alternative use cases of a dashboard, but use cases the infrastructure — mainly a required data warehouse — brings with It.

DATA ANALYTICS

The importance of data analytics is steadily increasing. And I'm not even talking about big data, machine learning and stuff like this. But I'm talking about a reliable, comprehensive and broad data source to fuel analytics measures. Many airlines — especially small and mid-sized airlines— we have been talking to through recent years have not been operating a dedicated data warehouse.

Conversely, data often is stored in databases of different systems. However, such a setup massively hinders the process of data analytics. As mentioned above, one crucial step to provide real-time information and KPIs is in connecting data sources, collecting data, and storing it. Accordingly, while gathering all required data, a combined and reliable source can be provided for data analytics.

Without any additional hardware, interface, or anything else.

The only step to take is to provide access to this data. Typically, this is achieved by using standard tools, for example, Tableau or PowerBI.

The benefits are obvious:

- Besides standard analytics tools, no need for additional infrastructure.
- You can access a holistic data platform
- Integrated data can are useful for both analytics and in the context of your real-time dashboard.

REPORTING PLATFORM

Although we actively promote real-time KPIs and dashboards, weekly and monthly reports still have a right to exist and provide additional value. From our experience with airlines, many of them still rely on manual or semi-automated creation of weekly and monthly performance reports. Also, from discussions with airlines, we know that the creation process can be painful due to collecting data from different sources. But that's not all. Afterward, raw data is often calculated and prepared in Excel. As a final step, Powerpoint is commonly used to create a report.

Summarized, a time-consuming,

3 USE CASES LINKED TO AIRLINE REAL-TIME DASHBOARDS YOU'VE NEVER THOUGHT ABOUT

inefficient, and error-prone process.

Since one vital function of real-time dashboards is in calculating KPIs, it seems reasonable to extend the usage from real-time to historical reports.

Especially bearing in mind that all required data is already available. With our product, the A:Wall, we provide a smart add-on that calculates historical KPIs (weekly, monthly, etc.).

Subsequently, KPIs are offered in an easy-to-read report format on a defined regular base.

SINGLE-SOURCE-OF-TRUTH OR API TO DRIVE BUSINESS

The final use case we want to introduce is a more complex one. But also one that holds an enormous potential. Again, the core idea behind is that the data warehouse contains data from a variety of operational systems. Moreover, this use case addresses a particular challenge many airlines face. Setting up new systems or extending existing ones often leads to the process of building required interfaces. Usually, building those interfaces is one of the main effort and cost drivers.

This is mainly driven by the fact that data is scattered across various systems in different formats and quality. Of course, middleware solutions are one way to tackle this challenge. Nonetheless, an alternative we consider as even efficient is in providing structured access to the entire data contained in the warehouse. We achieved this by setting up a standardized API that allows access to data in real-time.

Thereby, systems that require specific data can efficiently utilize the existing API and request required data in standardized, documented, and structured way.

SATISFIED CLIENTS

AEROFLOT Russian Airlines

ICELANDAIR

edelweiss

Lufthansa Cargo

Eurowings

Lufthansa

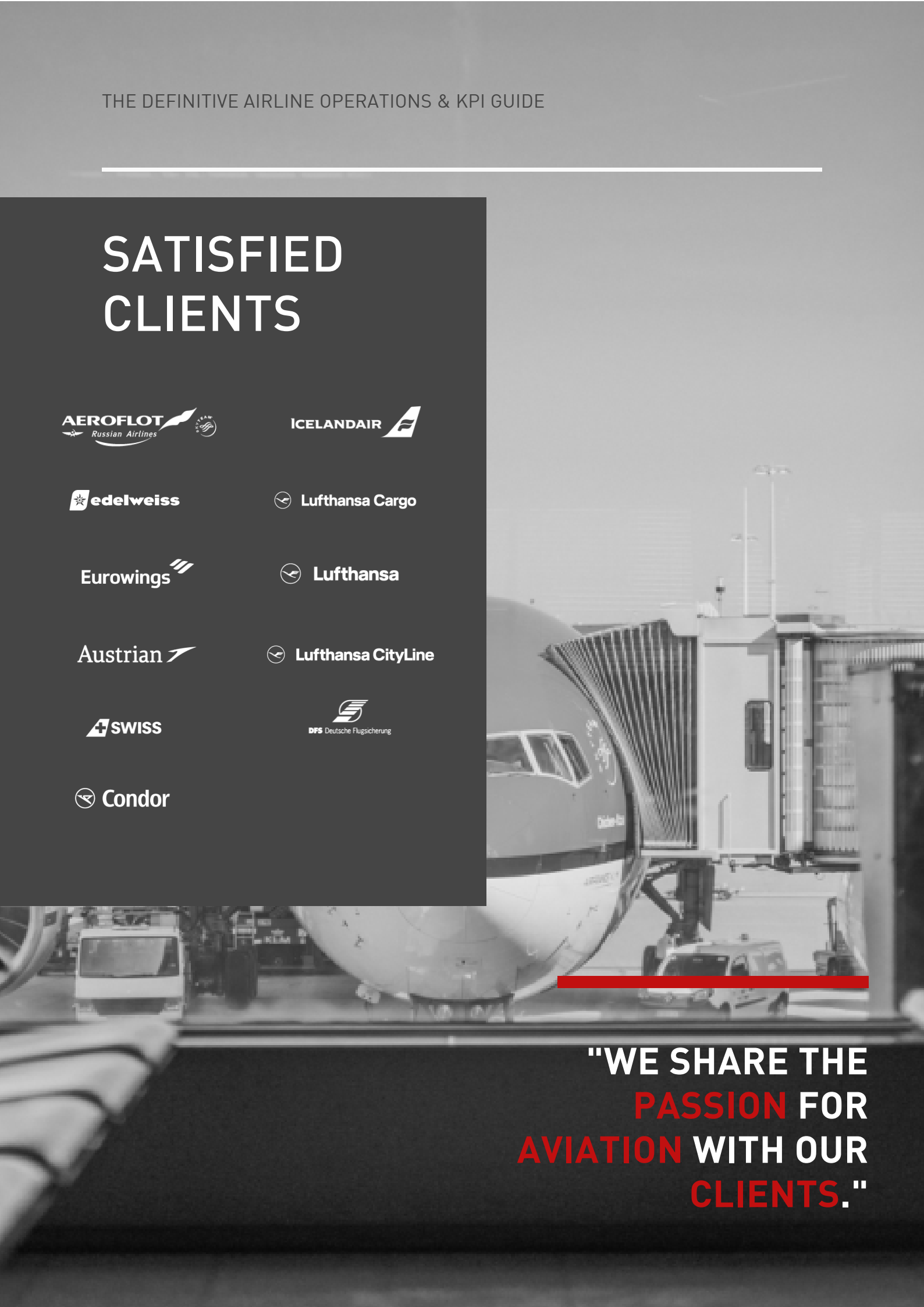
Austrian

Lufthansa CityLine

SWISS

DFS Deutsche Flugsicherung

Condor



"WE SHARE THE PASSION FOR AVIATION WITH OUR CLIENTS."

6 MOST IMPORTANT KPI FOR AIRLINE OPERATIONS

KPI & DASHBOARD / 5 MIN READ

In today's world almost every company sets up key performance indicators (KPI) to track and ultimately reach corporate goals — so do airlines. Besides generic KPIs, as for example finance or marketing-related KPIs, airlines usually implement KPIs to monitor their operations performance. However, since airline operations are based on various, complex processes, that amount of operations KPIs is sheer endless. To give you an example: When we start a project with an airline, we usually have a set of +50 operations KPIs to launch an initial discussion. And our product catalog contains even more than 100 airline operations KPIs. Indeed, not all of them have the same priority, and many KPIs address specific business models or sub-processes.

Most Important Airline Operations KPI – What We Analyzed

To answer the question of most important airline operations KPIs we took a look at our clients.

That means we've analyzed more than 15 airlines using the A:Wall. The analyzed airlines included:

- 4 flag carriers (e.g. Lufthansa, Saudi Arabian Airlines or Swiss Airlines)
- 2 medium-sized airlines (e.g. Icelandair)
- 2 Charter Operator (e.g. Condor)
- 5 Regional carrier (e.g. Air Dolomiti)
- 2 Low-cost airlines (e.g. Volotea)
- 3 Cargo Airlines (e.g. Lufthansa Cargo)

For each of the airlines, we checked which KPIs they are using on their A:Wall channels.

6 MOST IMPORTANT KPI FOR AIRLINE OPERATIONS

6th — Misconnex Quota

Misconnex Quota, which is calculated as the percentage of connecting passengers that miss their onward flight in relation to the complete number of connecting passengers, is used by 45% of all airlines analyzed. It has been quite surprising to see this KPI in this list, since it is not of interest / not relevant for point-to-point airlines. Additionally, the KPI reflects a rather complex indicator, that requires a thorough calculation model and extensive data. However, for hub-and-spoke airlines the KPI can be seen as main differentiator and quality feature, which certainly is the reason why many of those airlines use the KPI.

5th — Arrival Punctuality

Arrival Punctuality is calculated as the percentage of flights that arrive on-time at the planned destination airport in relation to all operated flights. Normally, a flight is counted as on-time if the arrival delay is not greater than 15 minutes. Our analysis showed that 67% of all airlines are using this performance indicator. Although we assumed this KPI to be ranked much higher, it turned out that especially network carriers aren't focused on this indicator.

Of course, that doesn't mean these airlines are not focused on punctual operations. However, the strategic and operational goals in terms of on-time performance are often linked to a different KPI.

4th — Utilization (or seat load factor)

The Utilization KPI is calculated as the percentage of checked-in passengers in relation to available seats of an aircraft. As an additional factor, some airlines include the route length as an additional factor in the calculation.

71% of all airlines analyzed are using this figure.Interesting fact: Utilization is the only key performance indicator of the TOP 6 KPIs that is not related to customer satisfaction, but on profit-oriented operations. That shows us that customer satisfaction or product quality are considered as the main driver and goals of airline operational performance.

3rd — Delay Minutes

Delay minutes as a KPI is used by 82% of airlines analyzed. Although this performance indicator is used in different forms. Some airlines show the total amounts of delay minutes as a bold number.

6 MOST IMPORTANT KPI FOR AIRLINE OPERATIONS

A larger portion of airlines tend to show the delay minutes clustered according to underlying delay reasons, as for example technical, handling, rotational, airport, weather. And a few airlines show only delay minutes of specific delay reasons as they consider as most important or influential for their operations.

Interesting alternatives: Some of the airlines move away from showing the plain delay minutes and put them in relation with the number of flights or passengers. Results can be the average delay minutes per flight or average delay minutes a passenger experienced today.

2nd — Regularity

The indicator reflects the percentage of operated flights in relation to planned flights. Or in other words: How many flights have been canceled. 90% of all airlines analyzed are using this fundamental performance indicator. Although this is one of the most basic KPIs, it is surely one of the most important — especially to passengers. This reason why not every airline is taking care of this KPI can be found in the specific charter operations model.

Since charter airlines typically don't cancel flights (but delay them sometimes for more than a day), these airlines aren't using the KPI on a day-to-day basis.

1 — Departure Punctuality

And here we go with the winner: Based on our analysis, Departure Punctuality reflects the most important KPI for airlines. 100% of airlines analyzed are using this performance indicator. Departure Punctuality is calculated as the percentage of flights that depart on-time at the planned origin airport in relation to all operated flights. Normally, a flight is counted as on-time if the departure delay is not greater than 15 minutes. Actually, it wasn't a big surprise to have this KPI ranked first since departure punctuality is one of the most significant quality KPIs for airlines — specially when it comes to competitive advantages.

Airline Operations KPI — where are the environmental indicators?

Interesting fact: Although environmental KPIs (for example, fuel consumption, CO2) do not rank along with TOP 6 KPIs, we've seen a considerable increase in their usage. Will be interesting to see how this develops in the future.

THE DEFINITIVE AIRLINE OPERATIONS & KPI GUIDE

HUGE STEP FORWARD

HOW SMALL AIRLINES GENERATE SAVINGS OF €365,000 ANNUALLY WITH REAL-TIME OPERATIONS DASHBOARDS

KPI & DASHBOARD / 5 MIN READ

One of the most asked questions we receive is built around the topic of savings that can be achieved by using airline real-time operations dashboards.In our latest blog post, we already discussed the financial effort of setting up and operating an airline operations real-time dashboard. However, we did not cover the aspect of saving potential, which is related to a dashboard. Therefore, we thought it makes sense to put a spotlight on potential financial benefits, linked to real-time dashboards. Thus, to enable airlines to compare both sides of the medal — cost, and savings — and to set up a proper business case. Similar, as mentioned when discussing the costs, the first answer when looking at financial savings is "it depends." Nonetheless, we will try to assess this aspect step-by-step.

What are the benefits and related savings of an airline operations real-time dashboards?

When looking at our clients, it can be said that a real-time dashboard helps to improve the most critical operational KPIs of an airline.

We already talked a lot about that topic in previous blog posts:

- Why real-time KPIs will boost your operational performance?
- How to improve your airline's on-time performance in 30 days without spending several hundred thousands of dollars.

Let's focus on on-time performance to create a straight-forward business case

On-Time Performance is the KPI, which has to be mentioned first and foremost when talking about improvements by a real-time operational dashboard. Delay costs are one of the most painful cost drivers of an airline. Lufthansa, for example, spent €500 mil in 2018 on compensating passengers.

HOW SMALL AIRLINES GENERATE SAVINGS OF €365,000 ANNUALLY WITH REAL-TIME OPERATIONS DASHBOARDS

And this figure does not include additional costs for maintenance, crew, fuel, etc.
And since a business case that includes several KPIs would quickly get very complicated, we will focus on OTP only with the following calculation.

Although many factors —internal and external— influence OTP, we observed an improvement of this KPI by 1% – 4% over 12 months.

AIRLINE OPERATIONS DASHBOARD SAVINGS — LET'S DO THE MATH.

Of course, we have to work with several assumptions. And of course, the case might look slightly different depending on your fleet size, average delay minutes, and delay costs you are calculating. In this case, we're going to work with the following assumption of our airline; we like to call Freedom Airlines. Freedom Airlines operates 30 aircraft, with a total of 120 flights per day. The average delay minutes of Freedom Airlines sums up to 11 minutes, which is pretty much standard according to Eurocontrol.

Freedom Airlines calculates delay minutes with €79, according to University of Westminster for EUROCONTROL.
Since Freedom Airlines does not take into account the first three delay minutes, they have an average delay of 8 minutes (11min – 3 min), summing up to 960 delay minutes — daily.

On an annual base, this sums up to roughly 350,000 delay minutes or approximately €27,7 mil.

Let us chose a conservative approach and assume a real-time dashboard (for example the A:Wall) helps to improve the OTP by 1.5%. That will lead to a reduction of more than 5,000 delay minutes annually.

Subsequently, savings of €415,000 can be achieved.

WHAT ABOUT THE COSTS?

According to our last post, the basic A:Wall package requires an annual investment of approximately €50,000. The basic package already contains everything that's required for monitoring and improving the OTP.

HOW SMALL AIRLINES GENERATE SAVINGS OF €365,000 ANNUALLY WITH REAL-TIME OPERATIONS DASHBOARDS

Accordingly, the usage of a real-time dashboard (in our scenario) achieves savings of approximately €365,000 within the first 12 months.

Although this business case is based on several assumptions we do hope it provides a first overview of possible savings related to a real-time dashboard.

WHAT YOU SHOULD KNOW ABOUT THE PRICING OF AIRLINE OPERATIONS REAL-TIME DASHBOARDS?

KPI & DASHBOARD / 7 MIN READ

In one of our last airline dashboard blog posts, I mentioned that a question which is usually raised within 30-60 minutes of an initial meeting with potential clients is "how long does it take to implement the A:Wall?"

The A:Wall is our real-time dashboard solution. And besides discussing the functionality and visuals, potential clients are usually very eager to know how soon they can get their A:Wall.

However, besides functionality and duration, there's, of course, a third aspect potential customers want to know:

"What's the price of the A:Wall?"

Additionally, many of our blog readers recently asked me to provide some information about the pricing of airline dashboards. With this blog post, I want to shed some light on this topic of airline dashboard pricing and provide details about the pricing structure of our real-time dashboard solution, A:Wall.

With this blog post, I want to shed some light on this topic of airline dashboard pricing and provide details about the pricing structure of our real-time dashboard solution, A:Wall.

Bad news first: As you can imagine, there's no one answer. Although I hate to say it, the first answer I can give you is, "it depends."

But let's do a step by step approach to get closer to a more satisfactory answer.

1 – WHAT KIND OF COSTS OCCUR?

Let's start at the top of the mountain and let us first define what kind of costs we are talking about. The A:Wall is based on two types of expenses. Initial setup costs and monthly subscription fees.

The initial setup costs occur only once and contain all efforts related to connecting systems, defining desired KPIs, setting up tailored A:Walls, and joined Q&A.

Depending on selected business packages (see #2), the initial setup costs of an airline dashboard usually sums up to €10-20K.

WHAT YOU SHOULD KNOW ABOUT THE PRICING OF AIRLINE OPERATIONS REAL-TIME DASHBOARDS?

Since the A:Wall is a cloud-based solution, clients can subscribe to different business packages (see #2) and add-ons (see #3). Subsequently, a monthly subscription fee has to be paid, which is calculated based on chosen packages and add-ons.

2 – AIRLINE DASHBOARD BUSINESS PACKAGES

The most important aspects when it comes to monthly fees is related to the business package clients chooses for their airline dashboard. A business package contains specific KPIs as well as visualization forms and concentrates on a specific airline business aspect.

Besides a core package which is mandatory and includes standard visualizations and KPIs (OTP, regularity, and many more), clients can additionally select the following packages:

- Connex Management
- Cargo Management
- Weather Information
- Airport Information
- Safety Management
- Maintenance Management

Monthly fees for business packages vary and are mainly driven by complexity. Low complexity packages start with €500 per month; complex ones are around €5,000.

Worth to mention at this point that most of our clients go for 2-3 packages.

But we will do an exemplary calculation later on.

3 – AIRLINE DASHBOARD ADD-ONS

Besides business packages which are required to operate the A:Wall, customers can select additional – optional – add-ons.

Besides business packages which are required to operate the A:Wall, customers can select additional – optional – add-ons.

Add-ons cover different aspects.

Here are a few examples:

- Historical values extension (the A:Wall is extended to showing historical values – weekly, monthly, etc.)
- API Access (accessing the data with 3rd Party tool, for example, Tableau.
- Additional user licenses
- Extended mobile usage (smartwatch and push notifications)
- Extended alerting (KPI alerts)
- And more…

Monthly fees for add-on vary and start with €500.

WHAT YOU SHOULD KNOW ABOUT THE PRICING OF AIRLINE OPERATIONS REAL-TIME DASHBOARDS?

IS THERE A TYPICAL PRICING?

What I've observed is, that besides all potential packages and add-ons, an airline's size probably plays the most crucial role. Usually, the larger an airline is the more business packages and add-ons it selects. Mid-sized airlines carefully select exactly those packages and add-ons, which help to improve their operations. Small-sized airlines very often only go for the standard set — which usually is sufficient for its operations and requirements.

LONG STORY SHORT – HERE ARE SOME NUMBERS

When selecting the necessary basics only, an airline can operate the A:Wall with a monthly fee as low as approx. €3,000 per month. But this already includes all the cool stuff, as for example iPad usage, common KPIs, cutting-edge visualization and everything in real-time — just to name a few features. And on the other end, when choosing most of the business packages and add-ons, the monthly fee can sum up to €20,000K. When looking at these numbers, my initial statement ("it depends") really wasn't wrong.

But I do I could give you a better feeling for a required invest when operating an operational airline dashboard.

3 TECHNOLOGICAL KPI TRENDS YOU SHOULDN'T MISS IN 2020

KPI & DASHBOARD / 8 MIN READ

With one of our recent blog posts, we presented the KPI Trends that will gain importance in 2020. The article addresses aspects like dynamic dashboards or benchmarking KPIs. Today we want to focus on upcoming technological trends that —from our point of view— will play an important role in 2020. Probably not surprising, each of the three trends is related to mobile usage. And besides the specific trends, we discuss in the following, mobile usage can be seen as the continuing significant trend when it comes to KPI usage. Of course, airlines will —for a good reason— continue to use large video walls and TV screens to display KPIs. This absolutely makes sense to create awareness across a department (OCC, HCC, etc.) or user group. However, when it comes to personal usage, the mobile phone (or tablet) will continue to become the preferred tool — instead of laptops or computers. Actually, this is not a KPI-specific trend but a trend you can observe in all areas. Here are two charts that describe how the usage of mobile already dominates our day.

Since this global trend will continue, airline KPI solutions have to meet these requirements and conquer smartphones and tablets even more aggressively than in the years before. The fundament in this context are dedicated apps for smartphones and tablets that provides the possibility to monitor KPIs and information in real-time. We wrote a lot about seamless integration and the necessity of a mobile-first strategywhen it comes to airline KPIs. Therefore, this is something we consider as a basis. If you want to get a better feeling for this, check out our A:Wall product pages. Based on that fundament, we see three major trends that will dominate the next year and simultaneously hold an enormous potential.

TECHNOLOGICAL KPI TRENDS: ULTRA-SEAMLESS INTEGRATION

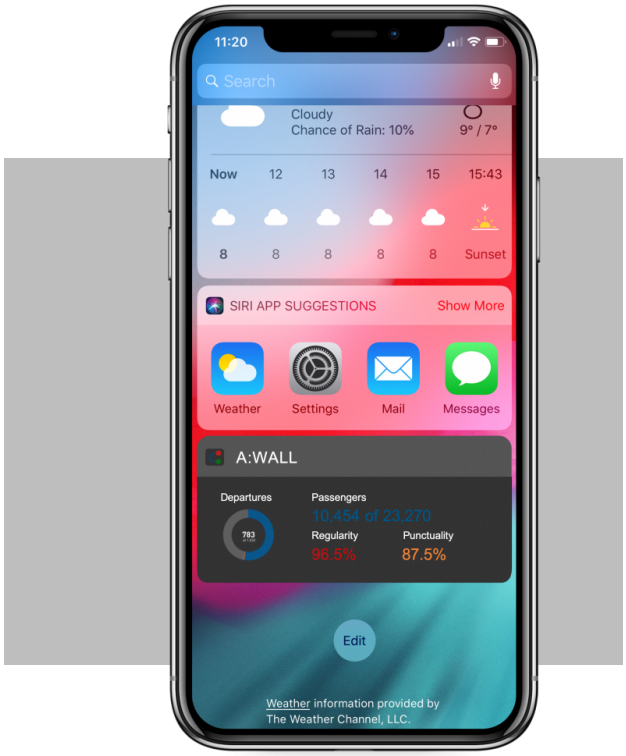
Seamless integration describes the provision of dedicated apps that are tailored to the specific device — in our case, smartphones and tablets.

3 TECHNOLOGICAL KPI TRENDS YOU SHOULDN'T MISS IN 2020

To achieve optimal integration, we think it is essential to take the next steps. With ultra-seamless integration, we define measures to even tighter integrate the airline KPI app into the smartphone/ tablet. Here's an example.

iPhone Widget usage

You may know the widget functionality of iPhones. If not, swipe to the right on the iPhone (even when it's locked). You get a very comprehensive overview of selected widgets. Depending on your configuration, you can see the next meeting or weather information. The cool thing is: Widgets provide a quick summary in a super-easy to access way. You don't have to unlock the phone, open an app, and probably login. In case the content of a widget alerts you, you can simply click on the widget and the several apps open. Widgets are a straight-forward and powerful functionality that even further integrates an app and content. Below you can see our very, very initial (actually it was the first) mockup we used to discuss this idea. That means you have your most crucial airline KPIs directly shown in a widget, accessible with just one gesture (swipe to the right).



And if a KPI alerts you, you click on the widget, and the app opens. That's what we call ultra-seamless integration. This is just one example of many. As mentioned earlier: The core idea is to utilize smartphone and tablet functionalities to integrate KPI apps into the devices further — and thereby massively improve usability.

Just dream for a second

Instead of starting your laptop, connecting to your corporate network, starting a web browser, selecting a bookmark, doing the login, selecting the correct dashboard to have a look at your KPIs — you swipe to the right on your iPhone.

3 TECHNOLOGICAL KPI TRENDS YOU SHOULDN'T MISS IN 2020

TECHNOLOGICAL KPI TRENDS: SMART ALERTING

What's even better than swiping to the right? It is getting actively alerted when something happens. This is what the second trend we forecast for 2020 is about. The trend is tightly linked to a growing mobile usage of KPI solutions — however, it requires a lot of work in the backend. The basic idea: You send out alerts whenever a KPI changes significantly. For example, the OTP drops by 3% compared to the last hour; smart and automated alerts are sent out directly to the mobile device of relevant stakeholders. Another example in this context is about sending out important and smart updates. Here are two examples: The number of passengers until noon is 5% above the daily average. Or this misconnex quota is 2% less compared to the last three days. I think you're getting the point. And actually, the number of use cases are limitless.

TECHNOLOGICAL KPI TRENDS: SMARTWATCH

Smartwatches, for example, the Apple Watch but also devices from other providers, will —from our point of view— gain an increasing importance in 2020.

Smartwatches are continuously becoming an essential part of many people's life. As mobiles did 15 years ago, we are currently witnessing the advent of smartwatches. And this will have an impact on airline operations KPIs too. With a market size of $9 billion back in 2017, current forecast estimate a volume of more than $30 billion in 2025 (Allied Market Research).

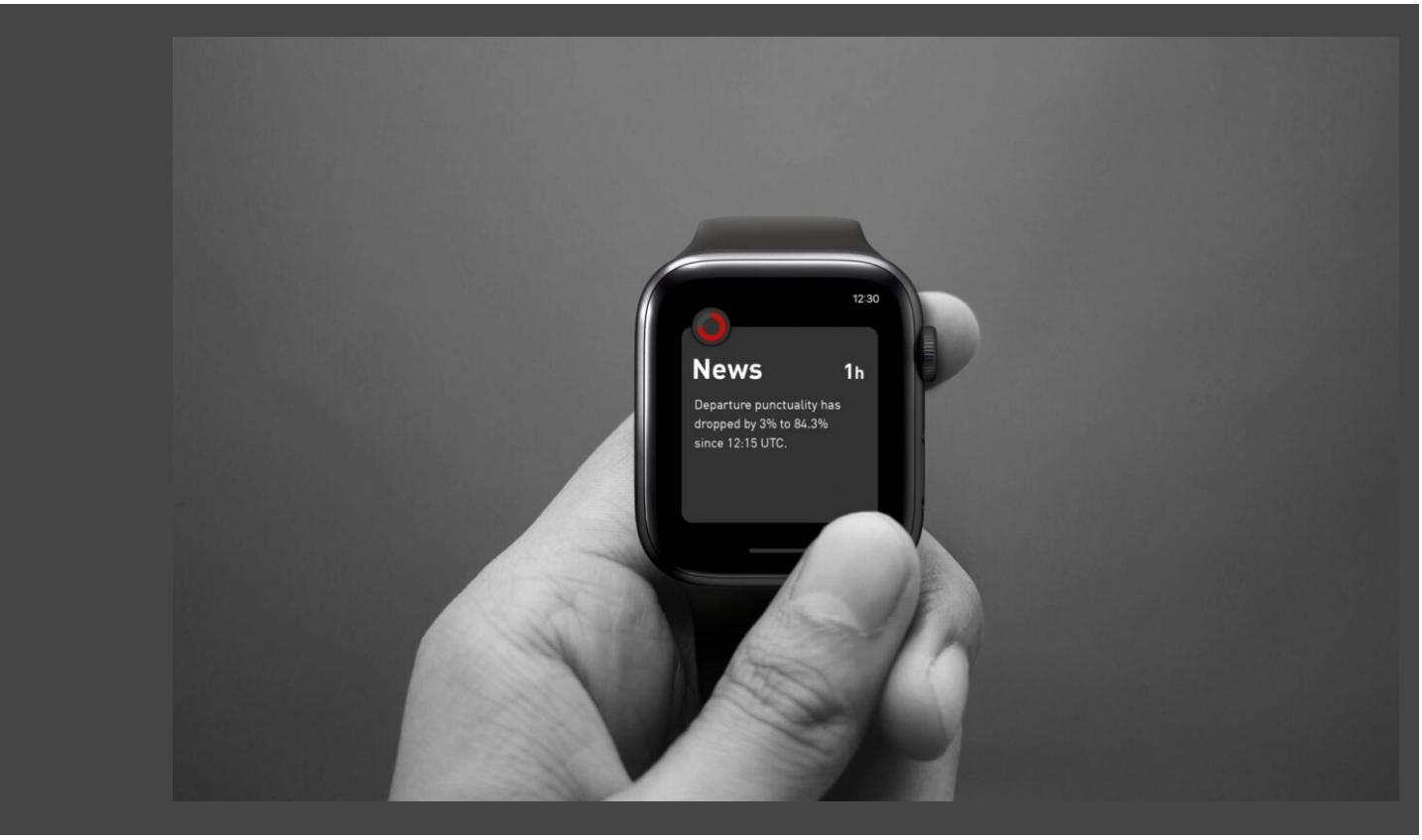
In other words, the market size is expected to grow by 15% — annually.

Although many airlines are still trying to incorporate smartphones into their operations KPI framework, the frequency of discussions I'm having with airliners about smartwatches is steadily increasing. Since the usage of smartwatches is different, you should think about not bringing the entire information onto the smartwatch. Instead, we see the idea of Smart Alerting as a primary driver for smartwatch usage. The charming aspect: You don't need to develop a native smartwatch app.

How could that look? I give you an example: Instead of trying to visualize the real-time on-time performance KPI on smartwatches, you send out the alerts mentioned above whenever this KPI changes significantly.

3 TECHNOLOGICAL KPI TRENDS YOU SHOULDN'T MISS IN 2020

Here's an example we've developed with regards to the A:Wall



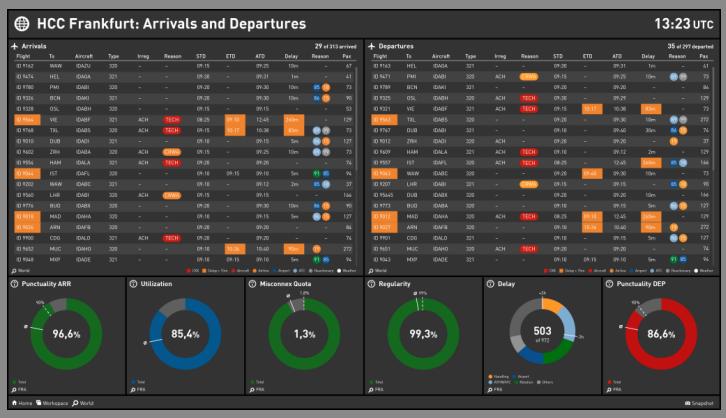
CONCLUSION

Summarized we strongly believe that tailored, personal usage of KPIs will play a more dominant role in 2020 and consecutive years. Therefore, it is more than ever important to seamlessly provide the required information and to make it accessible as easy as possible.

4 ESSENTIAL OPERATIONS INFORMATION YOU NEED ON YOUR AIRLINE DASHBOARD — AND HOW TO MAKE THE MOST OUT OF IT

KPI & DASHBOARD / 6 MIN READ

Visualizing airline operations information on your dashboard is essential for a perfect situational awareness. KPIs are certainly one of the essential parts of an airline's operations real-time dashboard. But the truth is, a dashboard solely focused on KPIs won't bring the benefits you are expecting. Even worse, a dashboard that only visualizes KPIs can provide an overview of your current performance but shows enormous limitations when it comes to providing a comprehensive situational awareness. With this post, we introduce four essential information you should include on your operational dashboard. Additionally, we will also provide examples of how to visualize that information. Moreover, the examples include some best-practices we gathered from our projects and product development.



Airport Arrivals & Departures

AIRLINE OPERATIONS INFORMATION: DEPARTURE & ARRIVAL LISTS

One of the most critical information an operational dashboard has to include is about upcoming arrivals and departures. We like to visualize that kind of information quite traditional in two separate lists. Very often, the lists are tailored to specific airports or even focusing on one single hub only. However, from our point of view, simply showing a list of flights won't do the trick. Conversely, there are two critical aspects to consider when visualizing arrival and departure flight lists.

4 ESSENTIAL OPERATIONS INFORMATION YOU NEED ON YOUR AIRLINE DASHBOARD — AND HOW TO MAKE THE MOST OUT OF IT

Add useful flight information

Solely showing a flight number doesn't provide a huge benefit. One crucial advice to enrich the flight list with helpful information. In our example, we are showing attribute, for example, ETA, delay reasons, number of passengers, delay minutes, etc. This helps to assess the status of a flight.

Use color highlighting

Develop a color highlighting concepts that highlight flights according to different rules (specific delay minutes, ground insufficiency, etc.).

This will bring two massive advantages: On the one hand, you can quickly identify single flights with a specific problem, and on the other hand, you can quickly assess the overall situation of your operations according to the overall coloring of the flight list.With our product, we defined several rules, but all are aiming for the same benefit: In case the flight is mostly black/white, operations run smooth. In case the dashboard, more and more turns yellow problems start to rise. And if you can spot a lot of red on your dashboard, you are facing massive problems.

AIRLINE OPERATIONS INFORMATION: WORLD MAP

The world map provides an overview of currently operated flights. Of course, in case you are only operating in specific parts of the world, you don't have to show the entire world map but only required regions. The world map is aiming to provide awareness and status of your current flights. Besides a perfect overview, we also observed that the world map reflects a considerable asset in terms of emotional motivation. Again, we strongly advise to add additional context to the world map or the shown flights. With our product, we again use colors to provide further information. Usually, our clients go for a color highlighting visualizing if flights are on-time or delayed (initially according to departure and as soon as an ETA is available according to arrival). Green flights are on-time; red ones are delayed.

But we also have different use cases: For example, coloring according to number of connex passengers.

4 ESSENTIAL OPERATIONS INFORMATION YOU NEED ON YOUR AIRLINE DASHBOARD — AND HOW TO MAKE THE MOST OUT OF IT

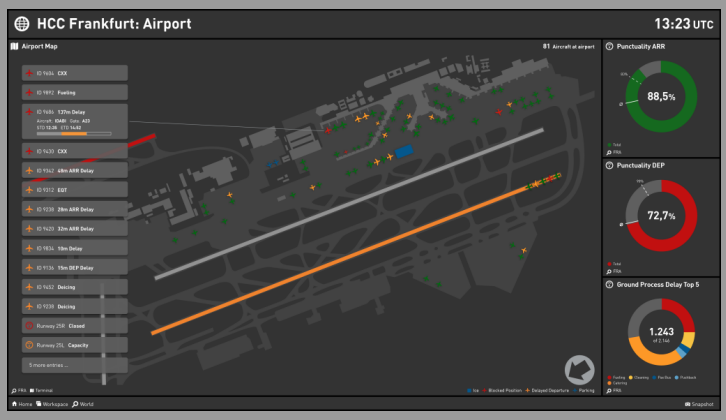
AIRLINE OPERATIONS INFORMATION: WEATHER OVERVIEW

We already discussed the importance of weather information for airlines with one of our last posts. Especially when it comes to medium and long-haul operations, the importance of accurate weather information is enormous. Since there are many providers for weather data (METAR, TAF), it is relatively easy to integrate this kind of information. The challenge we observed is in translating the information (METAR and TAF are quite cryptic for many people). That's why we put a lot of effort into visualizing the text-based information.

Additionally, to avoid an information overflow, it makes sense to pay attention to highlighting specific aspects (exceptional winds, clouds, thunderstorms, etc.).

Below you can see an example of how translated and visualised weather information in the context of the A:Wall look.

AIRLINE OPERATIONS INFORMATION: AIRPORT INFORMATION



Airport Workspace

Last but not least, we strongly advise to include airport information within your operational dashboard. From our point of view, this should include information about current aircraft at an airport and their position. Similar to world maps and flight lists, it makes sense to include additional information on flights. And again, use color highlighting to highlight problem-related aircraft. Additionally, you can add airport-specific information, for example, runways usage and closure.

WORDS FROM CLIENTS

"I AM MORE AWARE AND BETTER INFORMED TO TAKE ACTION. EVERY DAY."

AIRLINE OPERATIONS KPI TRENDS THAT WILL GAIN INCREASING IMPORTANCE IN 2020

KPI & DASHBOARD / 7 MIN READ

The idea of airline operations KPIs more and more attracts airlines. Many of them have started to track KPIs regularly or even in real-time. However, a considerable proportion of airlines concentrate on "traditional" KPIs, for example, punctuality, stability, etc. Don't get me wrong: There's nothing wrong with that. Conversely, we encourage and empower airlines to start tracking those KPIs. Moreover, we help them to monitor in real-time and make KPIs available to relevant stakeholders. Nonetheless, the world of KPIs is turning fast. And the improvement potential an airline can explore by applying new KPIs or approaches is growing steadily. We are fortunate to be in a position to identify and discuss upcoming trends with clients but also with cooperation partners and technology leaders. With this blog post, we want to share the knowledge with you and introduce three airline operations KPI trends that will gain increasing importance in 2020.

AIRLINE OPERATIONS KPI TREND 1: TEMPORARY KPIS / DYNAMIC KPI DASHBOARDS

Temporary KPIs are a trend we have been observing over the last months and which has the potential to become a major airline operations trend in 2020. What's the idea behind? Temporary KPIs focus on particular aspects. Most often, in the context of an improvement or optimization project. That means the KPIs are set up to prove the success of specific project goals.

Examples we observed: A project that was aiming to reduce the average taxi time at hub or one that aimed to improve the crew readiness. To monitor the success of those projects, corresponding KPIs were created once the projects started and added to available dashboards. Thus, enabling real-time monitoring of the most critical project goals. Once the projects were completed, and the issue was solved sustainably, the KPIs were removed from dashboards.

AIRLINE OPERATIONS KPI TRENDS THAT WILL GAIN INCREASING IMPORTANCE IN 2020

Another example are KPIs, where tracking only makes sense during specific periods. One of our clients had huge issues with security control – but only during the summer season. So, they brought a particular KPI to their dashboard to keep track of this process step. Once operations were running smoothly again, the KPI was removed from dashboards.

Dashboards have to transfer from static views to dynamic support tools

From our point of view, the topic of dynamic dashboards will gain more and more importance. Airline operations KPI dashboards will no longer be considered as a static system but have to cope with changing requirements.

The focus during summer peak and winter operations is different. Optimization projects are gaining increasing relevance. And a KPI dashboard should be up to these requirements. That means the content of a KPI dashboard has to change dynamically. We think there's a huge potential in turning static dashboards that show the same content day-in and day-out into a combination of most important static KPIs and curated, temporary information and KPIs. Thus, this trend will enable airlines to enrich operations KPI dashboards with additional value and subsequently help to improve performance further.

AIRLINE OPERATIONS KPI TREND 2: SUSTAINABILITY KPIS

We already discussed this topic in one of our earlier blog posts. Although, sustainability cannot be considered as a new trend, it definitely is when it comes to airline operations dashboards. And during the last months, we've observed an increasing demand — at least when it comes to discussing the possibilities of real-time, sustainability KPIs. We are fully aware that these KPIs won't improve airline operations. They won't help an airline to become more punctual or to cancel fewer flights.

Nonetheless, given ecological developments and a changing society, we firmly believe that real-time operations dashboard will be enriched with sustainability KPIs sooner or later.

We are pretty sure that 2020 will be the year the first airlines will go down that road. As mentioned in our blog post, we are convinced that visualizing sustainability KPIs in real-time will help

AIRLINE OPERATIONS KPI TRENDS THAT WILL GAIN INCREASING IMPORTANCE IN 2020

airlines to focus on the topic of sustainability and can also be utilized as a sharp marketing instrument.

AIRLINE OPERATIONS KPI TREND 3: BENCHMARKING KPIS

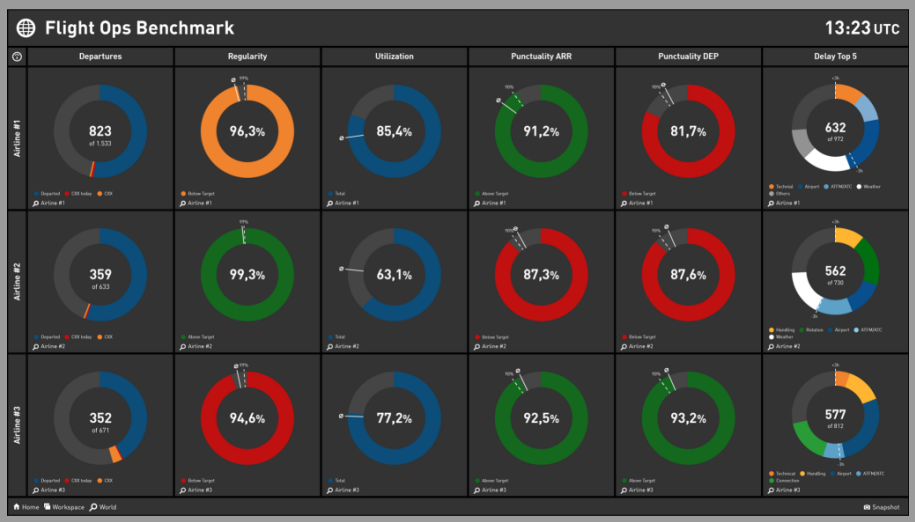
The benchmarking approach certainly is not new. However, when it comes to real-time monitoring of operations KPIs, this approach hasn't been exploited to its full extent yet (or hasn't been exploited at all).In 2019 we set up many A:Walls that focus on internal benchmarking — for example, benchmarking the essential KPIs according to different fleet types, different traffic regions, or airline AOCs against each other. When looking into the "2020 glass bowl," we believe that this approach will – and should – be extended to external data.

Undoubtedly, this approach bears a much higher complexity. Additional data and data sources are needed. Other calculation functionalities are required. Nevertheless, it will be worth the effort from our point of view.

Real-time competitor benchmarking

Just imagine monitoring your OTP in real-time with your most important competitors, comparing your delay minutes ratio at a particular airport with other carriers at that airport. And so on. This bears a massive potential.

Potential to identify weaknesses in comparison with your competitors, but also potential for further improvement measures — and therefore we definitely see this as a huge airline operations trend in 2020.



Benchmark

USING TABLEAU AS YOUR AIRLINE OPERATIONS REAL-TIME DASHBOARD — 3 REASONS WHY THIS ISN'T A GOOD IDEA.

KPI & DASHBOARD / 7 MIN READ

Let's talk about the idea of using Tableau as an airline operations (real-time) dashboard. To make it clear right from the beginning: I love Tableau. Actually, I think Tableau has changed the way companies are approaching the world of data analytics — tremendously and sustainably. Tableau literally enabled business departments to get in control of their data. And Tableau paved the way for data-driven improvements and enhancements. It filled the void between Excel-limitations and database developers and created the world of self-service business intelligence. Moreover, I think because of the before mentioned, and the new possibilities Tableau is providing people start to think about how and where they can utilize the tool.

TABLEAU AS AIRLINE OPERATIONS DASHBOARD — AN OFTEN ASKED QUESTION

I guess that's why – from time to time – potential clients or people I talk to ask me, "What about Tableau? Can't we just use Tableau as a real-time operations dashboard?". When I was confronted with this question for the first time, I was really surprised. I had never made up my mind — simply because I think that real-time dashboards and Tableau are different solutions, addressing different problems and different use cases.

Besides a wide variety of features Tableau brings to the table, there are three aspects why — from my point of view — it doesn't make sense to use Tableau as an airline operations real-time dashboard. And to make this clear again: I don't think that this is because Tableau is missing specific features. It is because Tableau wasn't built for this particular use case. Let's take a look at the details.

REASON 1 — ANALYTICS VS. SITUATIONAL AWARENESS

When taking a look at the Tableau website, one can quickly realize how Tableau positions itself: As end-to-end analytics platform. And Tableau offers a wide range of functionalities, features, and strengths for this use case.

USING TABLEAU AS YOUR AIRLINE OPERATIONS REAL-TIME DASHBOARD — 3 REASONS WHY THIS ISN'T A GOOD IDEA.

It's all about combining data and drilling down into the very details. It is about identifying root causes and patterns. Or, to get it straight: A tool to analyze a company's or airline's vast amount of data. The main focus of an operations dashboard is quite contrary to the use cases Tableau is aiming for. It is not about analysis and digging into the details. It aims to create an unmatchable situational awareness. It is about aggregating data, curating information, and providing a comprehensive view of what is happening in your airline's operations.

REASON 2 — REAL-TIME CALCULATION

As mentioned in many other blog posts, an airline operations dashboard has to provide real-time data, information, and KPIs. It doesn't make sense to show KPIs and information of the last day or week only.

Most of the benefits and advantages an operations dashboard brings to the table are tightly linked to its real-time nature.Of course, Tableau is capable of dealing with real-time data. Nonetheless, and similar to reason 1, this is not the primary goal of Tableau. Therefore, the hurdles and challenges to use Tableau as a real-time dashboard are immense.

Lufthansa's operations real-time dashboard — Find out more!

USING TABLEAU AS YOUR AIRLINE OPERATIONS REAL-TIME DASHBOARD — 3 REASONS WHY THIS ISN'T A GOOD IDEA.

We had discussions with airlines which were trying to achieve that goal with Tableau and received very disillusioning feedback. Although it can be possible, it won't work out-of-the-box and requires considerable effort.

REASON 3 — CERTIFIED CORPORATE KPIS

The last reason addresses the aspect of quality. In this context, one of the most significant advantages of Tableau can turn out as a disadvantage. Especially when using Tableau as an airline operations dashboard. Tableau — and this is an unbelievable achievement — re-defined or should I say, created the world of self-service business intelligence. With Tableau every user, every business department can create reports, analyze data, and subsequently define KPIs. However, this possibility inevitably leads to a decentralized creation of information. And we've seen many airlines looking at an on-time performance KPI on five different Tableau dashboards, and every KPI showed a different value. Indeed, it is possible to establish data governance processes to avoid such situations — but from experience, I can tell you, this is really tough work.

As a negative effect, this can lead to situations where operations dashboards show different values for the same KPIs.

That means we agree on KPIs, its calculation, its dimensions, its source data, and ensure that these KPIs are shown across all dashboards. This leads to the situation that it doesn't matter how (mobile, screen, browser) and where (operations control dashboard, management dashboard, etc.) you are using the dashboard — you're always accessing the same certified KPIs.

SUMMARIZED — TABLEAU AS AIRLINE OPERATION DASHBOARD

Tableau is a brilliant solution in terms of business intelligence and analytics. It really changed the way businesses are dealing with data and created entirely new approaches for self-service business intelligence. But, from our point of view, the use case of a real-time operations dashboard is different from the one Tableau is aiming for. Mainly due to the aspects use case, real-time, and certified KPIs.

8 DEPARTMENTS/AREAS THAT SHOULD USE AN AIRLINE OPERATIONS KPI DASHBOARD.

KPI & DASHBOARD / 5 MIN READ

Airline Operations KPI Dashboards are a perfect tool to improve operations. They provide an unmatched situational awareness and the possibility to know what is going on in operations. With this post, we want to share eight airline departments/areas which highly benefit from an airline KPI dashboard.

OPERATIONS CONTROL

Let's start with the obvious one. Operations Control or Network Control certainly is the number one department when it comes to operations KPI dashboard. Although there are still OCC's without any live dashboards and KPIs, an increasing number of airlines start to equip their OCC's with KPI dashboard. OCC directly benefits since they are the ones who have to be aware of what is going on in operations. And there's no better tool to achieve that than an operations KPI dashboard.

CREW TERMINAL

Many airlines have a dedicated crew terminal or specific entrance for flight and cabin crew. This is a perfect place for a large screen showing the current operational performance together with KPIs and curated information. It helps the crew already when starting their shift to get a comprehensive overview of today's operations and help them to the right focus. I've personally worked with many airlines which have equipped their crew entry point with one or more screens to show their current performance. And the feedback they've received from flight and cabin crew is always more than positive.

BRIEFING ROOMS

Besides the Crew Terminal, it is of great benefit to equip crew briefing rooms with KPI dashboards. Thus, the crew has the additional possibility to check current operations, limitations, and performance right before they start their shift or flight. In this context, it is often helpful to slightly narrow the information towards the respective flight event — but still, a comprehensive overview is super useful at this stage.

8 DEPARTMENTS/AREAS THAT SHOULD USE AN AIRLINE OPERATIONS KPI DASHBOARD.

MAINTENANCE OPERATIONS & MAINTENANCE STAFF

From my experience, I often observed that maintenance is slightly separated from an airline's operations information flow. Undoubtedly, it depends on the maintenance station and if maintenance is performed by your airline or by a 3rd party provider. Nonetheless, especially at your most important bases or your hub, it makes sense to equip your maintenance provider with a reduced view on your operations KPI dashboard. Of course, you don't have to provide all detailed information — but a basic set helps them to assess situations better and act beneficially.

GROUND HANDLER STAFF ROOM

Similar to maintenance, especially at your most important bases or your hub, it makes sense to equip your ground handling provider with a reduced view on your operations KPI dashboard.

FLIGHT OPERATIONS

Flight Operations, which holds the accountability for all flights, should undoubtedly be aware of what is happening right now. Detailed flight information and KPIs should be a matter of course for this department.

CUSTOMER CARE CENTER

The department, which is dealing with your passengers, whenever problems or complaints occur. And I've personally seen a lot of customer care centers which have access to a lot of external information. They have a news channel and weather channel. Different newspapers and all of these external stuff but what they are lacking is access to real-time information about their operations. It definitely helps them to improve their way of communicating with the customer because they know what is going on within the airline within the operations. So you should definitely equip your customer care center with a large TV screen or a Videowall. Or give them access in any other way to your real-time dashboard and to real-time KPIs in order to enable them to know what is going on and to be aware of the current situation.

MANAGEMENT & EXECUTIVE OFFICE

Finally, you should definitely equip your executive offices with an operations KPI dashboard. Let them be aware of what is happening.

HOW LONG IS THE TYPICAL PROJECT DURATION TO SET UP AN AIRLINE OPERATIONS KPI DASHBOARD?

KPI & DASHBOARD / 6 MIN READ

When discussing an A:Wall project with a potential airline, it usually takes only 30 to 60 minutes until the question is asked:

"How long does it take? What's the estimated project duration to set up our dashboard?". It is, of course, an essential question for airlines and a key aspect of whether to start a project or not. With this blog post, we want to answer the mystical question of how long it takes to set up an Airline Operations KPI dashboard. Nonetheless, as you may imagine, the general answer is "it depends." But of course, we will narrow this down to give you a better feeling in terms of duration.

IN-HOUSE VS. OFF-THE-SHELF — THE KEY DRIVER OF YOUR AIRLINE DASHBOARD PROJECT DURATION

First and foremost — and similar to other IT solutions — the most critical driver in terms of project duration lies in the decision whether to go for an in-house development or and off-the-shelf product, for example, the A: Wall.

Unsurprisingly, using an off-the-shelf product massively accelerates the introduction of a KPI dashboard. On the other side, an in-house development most often has to start from scratch. Therefore, in many cases, it requires 6 to 12 months until the first results are visible. This is at least what we have observed when discussing with airlines.

This timeframe depends on factors as:

- ***already existing IT infrastructure***
- ***required content and KPIs***
- ***desired devices (mobile versions)***

From discussions with airlines that went down this road, we know that it takes 12-24 months on average to have a final product up-and-running.

OFF-THE-SHELF PRODUCT

Besides many other advantages, an off-the-shelf product enables airlines to speed up the implementation process massively. Nonetheless, there are still factors that influence a project duration.

HOW LONG IS THE TYPICAL PROJECT DURATION TO SET UP AN AIRLINE OPERATIONS KPI DASHBOARD?

Desired content

KPI dashboards solutions normally provide a set of ready-to-use information and KPIs they are capable of displaying. With the A:Wall, for example, we offer more than 100 KPIs an airline can select. However, if an airline requires additional KPIs or content, this may have to be developed.

Used systems

KPI dashboard solutions usually offer standardized interfaces to standard IT systems. The A:Wall, for example, has standard interfaces too many operations control systems (Sabre, AIMS, Netline, etc.), passenger service systems (Amadeus), and many other conventional airline systems (SITA, ACARS, etc.). Accordingly, these systems can be connected in a blink-of-an-eye, whereas "non-standard" systems may take a few weeks longer.

FACTORS THAT DOESN'T DRIVE THE PROJECT DURATION OF YOUR AIRLINE DASHBOARD

The good news is that there are many aspects which are directly available when going for an off-the-shelf product. Therefore, these aspects don't influence the duration at all.

Devices

Off-the-shelf products should offer support to all required devices, for example, large screens, mobile, pads. Accordingly, this doesn't — or at least only slightly — increases the project duration.

Design

Ready-to-use products usually come with a defined visualization concept. Additionally, many of them can customize the design according to your airline's design requirements easily.

KPI

This is probably a massive advantage of off-the-shelf products. You don't have to take care of the definition and calculation of KPIs. Since this is a very time-consuming, painful, and lengthy process, a ready-to-use product can accelerate this enormously.

WHAT DOES THAT ALL MEAN IN THE CONTEXT OF A SETUP DURATION?

From our experience, setting up an off-the-shelf KPI Solution shouldn't take longer than 3 months.

HOW LONG IS THE TYPICAL PROJECT DURATION TO SET UP AN AIRLINE OPERATIONS KPI DASHBOARD?

In case the project concentrates on only one or two source systems, and you are using standardized systems, the duration should be shortened to 1-month maximum.

Setting up an off-the-shelf solution shouldn't take longer than 1-3 months until a first productive version is up-and-running. When concentrating on one source system the excercise should be completed even quicker.

With the A: Wall, we usually can provide at least a first version 2-4 weeks after contract sign-off. And bear mind, in this case, we are talking about a fully-fledged version on different devices.

THE DEFINITIVE AIRLINE OPERATIONS & KPI GUIDE

UNLIMITED POSSIBILITIES

THE 3 MOST ESSENTIAL SOURCE SYSTEMS YOU SHOULD CONNECT TO SET UP A BLASTING AIRLINE OPERATIONS KPI DASHBOARD

KPI & DASHBOARDS / 6 MIN READ

An Airline Operations KPI Dashboard is just as good as the data it is receiving. Since everyone is aware of this fact, one question comes up very early in every dashboard project: "Which systems are required?" or "Which system do we need to connect?". When discussing this question a little bit further, it always turns out that connecting source systems or building interfaces is a topic that worries project managers. Why's that? Because the airline's project manager is facing uncertainty in this context. Assumptions we then often hear are:

- Setting up interfaces is time-consuming and complex
- I'm sure we need to connect ten or more systems
- I'm not sure if our systems are capable of delivering the data
- We have to find out where to get this data from
- Isn't it complicated to set up such interfaces
- etc.

With this post, we want to shed some light on this topic and explain why you only need three systems to set up blasting airline operations dashboard. Yes, that's right: Three systems are all you need to operate a sophisticated operations KPI dashboard. And I'd even go one step further and tell you that it is sufficient to start with one system only. In fact, that's how we approach our A:Wall projects with airlines. Usually, we start with one single system. But with this single system, we're already able to present a dashboard packed with exciting information and KPIs.

AIRLINE DASHBOARD SYSTEM NUMBER 1: OPERATIONS CONTROL SYSTEM

The most crucial system you need to operate your Airline Operations Dashboard is your Operations Control System. Whether you are using Sabre Movement Manager, AIMS, or Netline Ops++ — the operations control system contains a broad range of data you'll need for your operations dashboard.

THE 3 MOST ESSENTIAL SOURCE SYSTEMS YOU SHOULD CONNECT TO SET UP A BLASTING AIRLINE OPERATIONS KPI DASHBOARD

Basic flight information, scheduled and actual times, passengers, delays, operational issues — it's all contained in your operations control system.

That's why definitely you should start by connecting this system.

With the data usually contained in the operations control system, you can already present a wide variety of information and calculate many KPIs:

- Punctuality
- Stability
- Flights
- Number of Passengers
- Cancellation rate
- And so on...

PASSENGER SERVICE SYSTEM / RESERVATION SYSTEM

If you want to take your airline operations dashboard to the next level, you should connect your Passenger Service System in a second step. Most common systems in this context are Sabre, Travelport, or Alteá from Amadeus. With the data contained in those systems, you can massively enrich your dashboard content.

On the one hand, you can provide lots off additional information:

- Gate information
- Position information
- Connecting passengers
- Connecting information
- Check-in information
- Additional timestamps
- Weight & Balance information (partially)
- And so on...

And again, on the other hand, you are also able to calculate several other KPIs, for example, the misconnex ratio, lost baggage index, connecting time issues, etc. Connecting the passenger service system shows a slightly higher benefit for hub airlines.

MAINTENANCE PLANNING & CONTROL SYSTEM

To gain a comprehensive overview of your operations on your airline KPI dashboard, you should connect your Maintenance Control System in a third step. Many airlines have started using AMOS, which I can consider as pretty much standard in the world of Maintenance Planning and Control.

THE 3 MOST ESSENTIAL SOURCE SYSTEMS YOU SHOULD CONNECT TO SET UP A BLASTING AIRLINE OPERATIONS KPI DASHBOARD

With connecting AMOS (or any other Maintenance Control System), you can display information about checks and calculate insightful additional KPIs:

- How many checks have been planned for today?
- How many checks occur unplanned? Number of AOGs?
- How's the event punctuality?
- Reserve utilization
- And so on...

SUMMARIZED — THE MOST IMPORTANT AIRLINE OPERATIONS DASHBOARD SYSTEMS

From our experience with setting up Airline Operations KPI dashboards, we've seen that connecting these three types of systems enables airlines to get a whole new awareness of their operations. When looking at our KPI catalog, which comprises roughly 100 KPIs at the moment, around 80% can be realized by connecting the above mentioned three systems.

HOW TO IMPROVE YOUR AIRLINE'S ON-TIME PERFORMANCE IN 30 DAYS WITHOUT SPENDING SEVERAL HUNDRED THOUSANDS OF DOLLARS

KPI & DASHBOARD / 7 MIN READ

On-time performance (punctuality) is probably the number quality indicator for an airline (except safety aspects). And a quality indicator that affects your passengers massively. However, many airlines still struggle to improve their OTP or maintain it on a high level.

According to recent numbers from OAG, only 4 airlines are operating with an OTP >= 90%.

But almost 70% of all airlines analyzed performing with an OTP below 80%.

No doubt, there are many factors influencing the OTP, and not all of them are under your airline's control. Moreover, airlines have been investing a considerable amount of money in improving their OTP. Investments to enhance operational processes, acquire new IT systems, or increasing workforce. Indeed, some of the investments paid off with a slightly increased OTP. Nevertheless, when looking at before mentioned numbers, it seems like a massive portion of the money spent was money wasted.

With this blog post, I will show you a way to improve your on-time performance — sustainability, without investing several hundred thousand dollars, and have first results within 30 days.

WELCOME REAL-TIME

The key to this improvement lies in setting up and utilizing real-time key performance indicator. Real-time data that shows you your OTP, stability, seat-load-factor, standby crew, etc. — at this very moment.
This information has to be available for everybody involved in your operations.
Your operations controller, your dispatcher, operations management, ground staff, flight crew, any some more.
Available on large screens in control or meeting rooms available on tablets or smartphones. You may ask: Really? That's it? That is going to improve my OTP?

HOW TO IMPROVE YOUR AIRLINE'S ON-TIME PERFORMANCE IN 30 DAYS WITHOUT SPENDING SEVERAL HUNDRED THOUSANDS OF DOLLARS

Actually, yes. But of course, I'm going to tell you why.

BETTER DECISIONS AND IMPROVED ON-TIME PERFORMANCE BASED ON REAL-TIME FACTS

In operations, every minute counts. Taking a decision too late or making a decision based on wrong/outdated information directly lead to reduced performance and reduced OTP.

Aberdeen research shows the use of real-time dashboards facilitates better decision-making.

As analyzed over the last two years, real-time dashboard users have improved their time-to-decision at a rate 2.5 times greater than those who don't use dashboards.

Imagine: A decision which previously took you 10 minutes now made in 4 minutes — and additionally, will be based on real-time information.

MANAGE YOUR AIRLINE IN REAL-TIME

I'm sure you read that 100 times before: You can't manage what you can't measure. Accordingly, how should your staff be able to improve OTP in day-to-day operations, without knowing the current OTP? This is simply not possible.

How should they be able to control and improve the influencing factors without knowing the current performance? Again, this is simply not possible. To improve the OTP in daily operations and manage in real-time, your staff needs to be aware of your key performance indicators.

REAL-TIME KEY DISRUPTION INDICATORS FOR AN IMPROVED ON-TIME PERFORMANCE

Key Disruption Indicators are those factors which directly impact the on-time performance of your airline. Think about standby crew availability, ground time sufficiency, gate or runway utilization — to name a few. These factors are crucial for your OTP. And again, you need to be aware of those Key Disruption Indicators in real-time to pro-actively initiate mitigation measures. A pro-active activation of additional standby crews, for example, will directly avoid delayed departures due to the lack of standby crews.

AWARENESS & GOAL-ORIENTED AIRLINE

We love to reach goals, don't we? And trying to achieve or finally achieving the goals in terms of punctuality boosts the motivation of your staff.

HOW TO IMPROVE YOUR AIRLINE'S ON-TIME PERFORMANCE IN 30 DAYS WITHOUT SPENDING SEVERAL HUNDRED THOUSANDS OF DOLLARS

However, there's pitfall — and this one again is psychological: Cause and impact. To ultimately boost an employee's motivation, it is essential to directly show the effect (of course, with real-time KPIs). Although the human brain is brilliant in many ways, it lacks potential to bring together cause and effect — at least if not directly and timely linked (think about junk food: We all know that junk food is not healthy, but since the result is far in the future we underestimate that).

Additionally, it's prevalent that people underestimate their impact on the overall success of a company / airline. "I'm just a ramp agent; if I'm five minutes late, it won't have an impact." That's because employees don't know the big picture (which is actually not their fault). By providing both specific and overall real-time KPIs for every area, every employee can assess how they are impacting the whole process — and I'm starting to repeat myself — that will additionally motivate.

SUMMING IT UP

From working with airlines of all sizes, we've seen that the above aspects immediately and directly show results — or in other words, direct help to improve the on-time performance of your airline.

Of course, a particular investment is necessary to provide real-time KPIs and real-time information. But compared to many other measures, this is a minimal investment.

WHAT'S UNDER THE SURFACE OF AN AIRLINE REAL-TIME DASHBOARD? 5 COMPONENTS YOU MIGHT NOT EXPECT

KPI & DASHBOARD / 10 MIN READ

With many of my blog posts, I focus on the aspect of content and visualization instead of talking about the backend components that are required to drive an airline dashboard.
This certainly is important, since the two elements ultimately reflect the business benefits. Moreover, a huge proportion of our clients —or a considerable proportion of our client's users to be more precise— are predominantly interested in the visualization of their real-time dashboard. What kind of KPIs are displayed? Which visualization forms are used? Etc.

However, the type of information, data, and KPIs that are finally visualized are only the icing on the cake. Especially in case an airline dashboard is more than just a visualization of one data source and provides functions beyond a simple KPI dashboard, a sophisticated backend with several components is required. Additionally, when discussing the usage of the A:Wall with clients, it is of immense importance to understand the backend ecosystem and components to be able to unleash the full potential and utilize all functionalities.

LET'S TAKE A LOOK AT WHAT IS UNDER THE SURFACE.

On a higher level, we divide the backend ecosystem for an airline dashboard into five essential components. The components are seamlessly and perfectly integrated and use a standardized XML-driven data object model.

Airline Dashboard Component 1: Data Hub

The data hub reflects a dedicated integration component that mainly serves two tasks. First of all, it connects the client's source systems. Therefore, the Data Hub provides ready-to-use standard interfaces for many of common airline systems, for example:

- Sabre
- Amadeus Altéa Suite (FM, CM, DCS)
- Netline
- ACARS
- AMOS
- etc.

WHAT'S UNDER THE SURFACE OF AN AIRLINE REAL-TIME DASHBOARD? 5 COMPONENTS YOU MIGHT NOT EXPECT.

Furthermore, a whole bunch of message protocols are supported, for example, Apache ActiveMQ, Apache Qpid, S/FTP, HTTP/S, IBM Websphere MQ, SMTP, SOAP, STOMP, TIBCO EMS, and many more.

The other core functionality of the Data Hub is in integrating data into standardized XML objects, that build the internal communication base. Objects cover different entities of airline operations, for example flight leg, connex, weather, and so on.

Summarized the Data Hub connects all relevant sources, processes, and enriches data.

Airline Dashboard Component 2: Master Data Services

Besides dynamic data that is pushed by an airline's operational systems, we provide the possibility to use Master Data Services as an additional component. Therefore, we operate a dedicated master data system. Master Data Services are usually used in two ways. On the one hand, the services already include a vast amount of ready-to-use master data, for example:

- Time zones
- Country information
- Basic airport information
- Standard delay costs
- etc.

On the other hand, the airline can maintain airline-specific master data. As a valuable side-effect, the airline can use the Master Data Services not only in the context of the A:Wall but also for other solutions within the airline's IT landscape.

Airline Dashboard Component 3: Data Warehouse

The data warehouse reflects the component we consider as the heart of our infrastructure. The Warehouse contains different layers, each serving a different purpose. Some important are:

Archive Layer

The layer that is responsible for archiving all incoming data the Data Hub provides. Together with a transformation layer, received objects are stored in a —mainly— relational data model. Subsequently, clients use the results of this layer to access archive data with 3rd party BI tools, for example, Tableau or PowerBI. Moreover, the archived data is used as a fundament for further layers.

Aggregation Layer

The aggregation layer is an essential layer when it comes to enhanced analytics but

WHAT'S UNDER THE SURFACE OF AN AIRLINE REAL-TIME DASHBOARD? 5 COMPONENTS YOU MIGHT NOT EXPECT.

also KPI calculation. Within the aggregation layer, dimensions are applied to relevant data (duration, traffic areas, operator, etc.). As a result, the layer provides various OLAP cubes.

Index Layer

The index layer —simplified— counts KPIs within dimensional contexts. Thus, providing the ultimate result to display KPIs on the A:Wall.

As mentioned, the above list of layers isn't complete, but gives a first overview of a sophisticated warehouse system, ran behind the A:Wall.

Airline Dashboard Component 4: Notification Service

The Notification Service is an additional component. It isn't required to calculate and display KPIs but adds further value to the complete ecosystem. The Notification Service is a rule-based component that constantly analysis KPIs. Based on defined rules —again XML-driven— the service recognizes if KPIs change over a specified period. In case a state is fulfilled, the service actively sends out a push notification to mobiles or smart-watches (for example, OTP drops by 2% within 30 minutes).

The Notification Service is tightly linked to the Data Warehouse since the Warehouse constantly pushes KPI values to the Notification Service.

Airline Dashboard Component 5: Event Service

Similar to the Notification Service, the Event Service isn't primarily required to calculate KPIs but brings additional benefits to the table. The Event Service receives the complete and integrated data set from the Data Hub. Based on client-defined rules, the collected data is processed, and in case a state is matched, an event is pushed to a queue or sent out.

Sounds theoretical, so let's give you a practical example: Let's say your airline focusses on premium / first-class passengers. Most likely, you are operating a department that takes care of these passengers. But that requires the department to be correctly informed about what is happening in operations.

And here the Eventer comes in. For many clients, we have connected several systems, for example, their operations control system, passenger system, ACARS, and so on. Since the Event Service is receiving all that data, one can define a

WHAT'S UNDER THE SURFACE OF AN AIRLINE REAL-TIME DASHBOARD? 5 COMPONENTS YOU MIGHT NOT EXPECT.

rule "If an ETA for a flight received that indicates a delay (compared to the STA) AND first-class passengers are on-board, AND some of the first-class passengers have a connecting flight AND (due to the delay) the connecting time for these passengers isn't sufficient an event is pushed/sent out".

I think you get the point. In easier words, the Event Service processes incoming data from various sources checks according to rules and pushes events.

Summarized

I hope that post can give you a brief overview of what is happening underneath the surface of an airline dashboard and which components can be applied. Indeed, you don't need such a sophisticated infrastructure in case you just want to visualize some KPIs. Nevertheless, with our product, we want to add additional value and go beyond KPIs. Therefore, it is essential to operate seamless and well-oiled components that enrich the value of an airline dashboard.

TWO FUNDAMENTAL TECHNOLOGICAL MISTAKES AIRLINES ARE DOING AND WHY THEY ARE MISSING A BIG OPPORTUNITY

INNOVATION / 8 MIN READ

This article is a summary of the discussions I had during the last weeks and months with colleagues from airlines — talks about how they currently use technology and how they want to use it in the future. And based on that, two fundamental technological mistakes many of them are doing from my perspective — mistakes that will lead to vulnerability and competitive disad-vantages. Since I have the feeling that this topic is both relevant and similar to many airlines, I want to share the thoughts I've articulated during the discussions.

Let's go back 15 years in time

But let's take a step back first: When I started to work in the airline industry more than 15 years ago, the world was different. Data still was a rare good (and by the way expensive to store too). The internet was nothing compared to today. And we used to work with mainframe systems or Excel 98 to analyze data and create reports. Anyhow —and that is quite interesting— the challenges an airline is tackling haven't changed largely.

Back in those days, we tried to improve the on-time performance, increase the efficiency of processes, and ultimately aimed for improved customer satisfaction. However, when comparing today's technological possibilities to the ones in the '00s, literally everything has changed. Most of the airlines possess more data than they can work with. New technical solutions are available and the today's possibilities of the internet have changed everything.

The two fundamental technological mistakes I observe airlines are doing right now

So far, so good — here we go with the two fundamental mistakes I observed when discussing today's tech world and opportunities, especially with mid-sized airlines. And to mention that right at the beginning, the two mistakes go hand-in-hand. They literally fuel each other.

TWO FUNDAMENTAL TECHNOLOGICAL MISTAKES AIRLINES ARE DOING AND WHY THEY ARE MISSING A BIG OPPORTUNITY.

Work as they did 20 years ago

The first problem I see is that —despite the fact that airlines are drowning in data— they very often try to handle data like they did 20 years ago.

In so many cases, Excel still is the tool to use. And in many cases, the results are then transferred to Powerpoint to finally prepare PDFs that are sent out to relevant stakeholders.

And I already can hear some of you saying, "wait, we no longer use Excel but moved to Tableau or PowerBI."

That's correct, but the thing is that you might have changed the tool; however, only a small portion of airlines have changed the way they approach data.

Overvaluing things they don't understand

That brings me to the second fundamental mistake: Airlines (and actually people in general) overvalue things they don't understand.

What does that mean?

Although the approach to tackle data hasn't massively changed, many of them want to leapfrog the process and overvalue the benefits of tomorrow's technologies: AI, predictive analytics, machine learning, and so on.

Don't get me wrong; I'm absolutely convinced about the power and impact AI, machine learning, and all the other stuff has to our everyday life.

Nonetheless, I've only met a few people that really deeply understand these topics and are capable of creating real business benefits out of it.

That's why I'm always surprised when I present our solutions to potential clients, and the first question I get is, "are you utilizing AI or predictive analytics with your solution?"

My answer to this might be a bit offensive, but I always use the following analogy: Look, if I used to be a car manufacturer, why should I start selling spaceships to people that are only capable of riding a bike?

The technological opportunity airlines are missing

Working like in the '00s and overvaluing the benefits of future technologies will lead to the results that you are missing a big opportunity. The opportunities today's technology is offering. And there are so many low-hanging fruits that can directly lead to business benefits and competitive advantages.

UNDERSTAND THE POWER OF KPI PUSH NOTIFICATIONS

INNOVATION / 7 MIN READ

There's one thing I'm thrilled about most at the moment. I'm literally pumped and pushing our developers to bring that thing to life.

What's that thing I'm talking about? It's called Key Performance Indicator (KPI) push notifications.

From my point of view, this approach has the power to completely change the way you work with KPIs. With this article, I'm going to introduce that approach to you, and I really want you to understand the enormous potential it holds.

But let's first take a look at how dealing with operations KPIs is handled today. Most of you have daily, weekly, or monthly reports to check the operational performance of your airline.

And —hopefully— some of you already took the next step and transformed into real-time KPI tracking. Relying on real-time KPIs for many airlines reflects a considerable step towards improved performance. Instead of ex-post analysis, real-time monitoring of KPIs gives you the possibility to identify problems right when they happen.

I am a huge fan of the real-time KPI dashboard, which is evident since we are offering a solution precisely for this use case.

And many of our clients achieved great results and have massively improved their level of situational awareness when it comes to airline operations. The only disadvantage of real-time KPIs and real-time dashboards I've always felt is the fact that you continuously have to monitor the information and KPIs.

And don't get me wrong: That definitely does not mean that real-time dashboards aren't of high value. But it means that real-time dashboards have to be considered as "pull-information." You have to look at the panel. You have to monitor it.

Based on that fact, we started to think about a solution that liberates you from constant monitoring. A solution that informs you whenever KPIs change.

UNDERSTAND THE POWER OF KPI PUSH NOTIFICATIONS

KPI Push Notifications are solving exactly this problem

So what's behind that idea?

Push notifications are the notifications that pop up on your tablet, mobile, or smartwatches. I'm pretty sure you've seen and you are already using them, for example, for your favorite newspaper or other apps on your mobile.

So what we did here at Information Design was to develop an entirely new component within our cloud-based dashboard infrastructure.

A component that continually checks the KPIs we are calculating for our clients. Additionally, we set up a rule-driven engine to identify changes that matter to our clients.

Now, whenever a rule matches, the component sends out a push notification to relevant stakeholders of the airline, informing them about the situation.

To give you an example: By using rules, an airline can define to send out push notification in case the on-time performance (OTP) drops by 2% within 60 minutes, or the number of cancellations is 2% greater than yesterday's cancellations.

KPI Push Notifications changes the way you approach information

As mentioned at the beginning of this article, this approach completely changes how you approach KPIs.

Instead of constantly monitoring your real-time KPIs, you can be sure to get informed whenever something tremendous happens.

And even better: You get notified exactly on the device you are currently using:

- **You're in a meeting and using an iPad -> Push notifications pop up on your iPad.**
- **You're at the airport and checking your emails on your mobile -> Push notification pops up on your mobile.**
- **You're working out at the gym and only wearing your smartwatch -> Push notification pops up on your smartwatch.**

It's no longer about pulling information

I firmly believe that this approach will sustainably change the way we work with real-time KPIs. It's no longer about pulling information from dashboards but about getting actively alerted, actively pushed when something happens. Certainly, real-time dashboards still have the right to exist, and there are many use cases where

UNDERSTAND THE POWER OF KPI PUSH NOTIFICATIONS

the dashboard makes sense. So I don't consider push notifications as a replacement of dashboards and reports. Not at all.

Push Notifications are adding additional values

Conversely, I think push notifications are adding additional value to KPIs.

They provide the possibility to provide every person, every stakeholder with precisely the information they need. Moreover, they receive the information only when it's relevant to them.

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