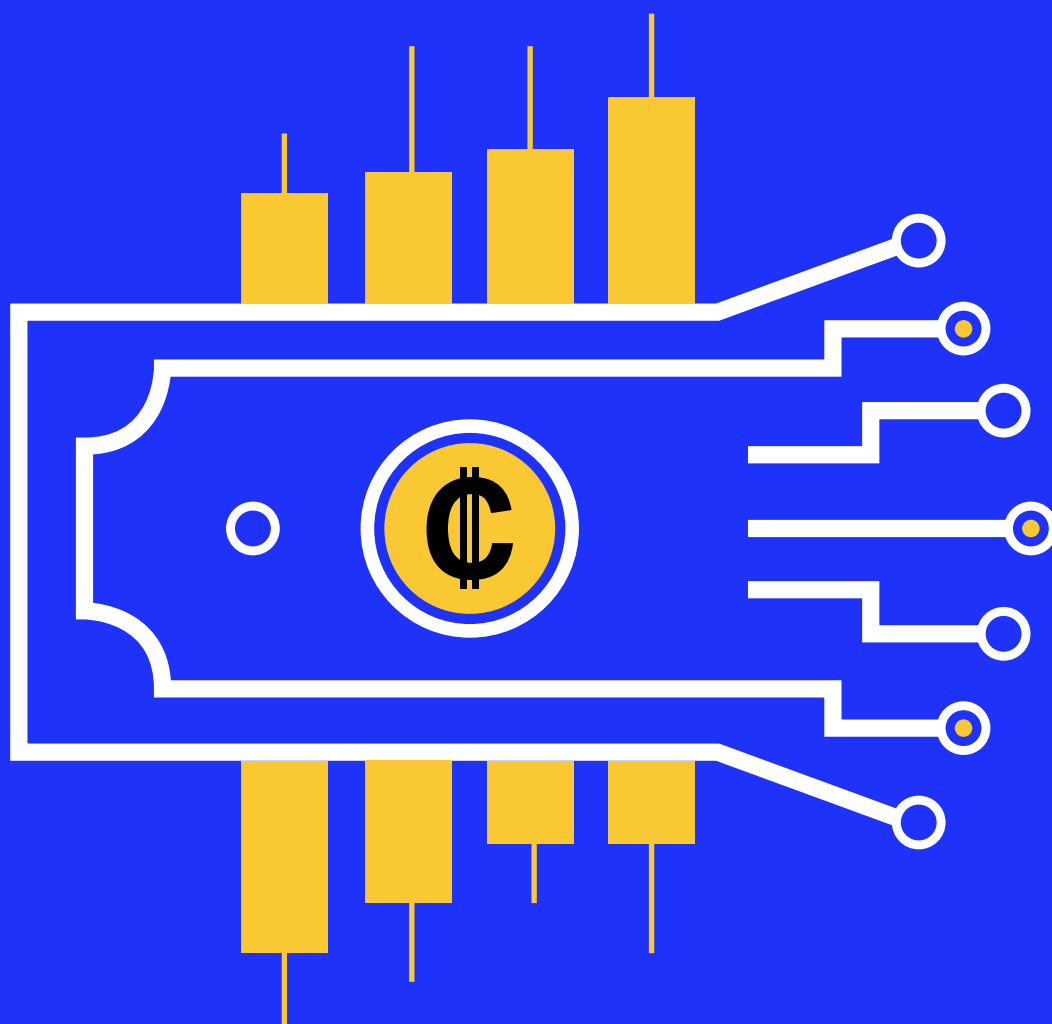


# Financial Think Tank

## White Paper



# Foreword



**Hoy Chin Yeoh**  
Director Industry Financial Services

The aviation industry is facing challenges of various nature on a regular basis. However, the devastation caused by the COVID-19 pandemic that hit the world in 2020 on all stakeholders in the aviation value chain is unprecedented. On the financial side, we have seen money flowing backwards, with airlines having to refund their customers instead of getting revenue from them. The need for increased efficiency and innovation in financial services became greater and more urgent than ever.

As we know, with every crisis comes an opportunity, and opportunity goes hand in hand with innovation. In the airline retailing area, the journey toward offers and orders will open new opportunities for revenue generation. This needs to be supported and enhanced through efficient and cost-effective payment options, and through streamlined revenue accounting and treasury functions. Financial resilience is key for airlines' survival and it is of utmost importance to guarantee a cash flow that is smooth, continuous, and efficient.

In parallel to this, two recent trends have been identified. Many governments and Central Banks around the world are starting to review their monetary policies and regulations. Digital currency is one important area that requires close monitoring and understanding of its impact on the airlines' business.

During the pandemic, we have also witnessed high volatility in the FX area. This had a heavy impact on the selling and collection processes and unfortunately, has resulted in challenges on currency repatriation.

The Financial Think Tank focused on these two trends and explored potential risks and opportunities related to them resulting in the two themes addressed in this paper: Digital currency and its impact to airline retailing, and impact of FX in the world of offers and orders.

We hope that you will find the ideas presented useful and that they will help raise awareness and contribute towards a more proactive approach to a smooth journey of the money.

# Executive Summary

The airline industry has been severely impacted by the COVID-19 crisis, specifically in terms of passenger and ticket sales volumes. This impact exacerbated the critical role a strong airline Finance and Payment strategies must have for a sustainable industry.

It also accelerated the transformation of the payment landscape by influencing a change in the customers' behavior via the introduction and generalization of new technologies supporting new methods of payment.

As the Financial Think Tank launched in 2021, the team focused on brainstorming and designing ideas with the aim to help airlines preparing for the payment and finance transformation journey.

Two main ideas came out of this exercise:

- 1. Central Bank Digital Currency in airline retailing**
- 2. Foreign currency exchange opportunities in the world of 100% offers and orders**

These are addressed in detail within this paper, while two videos accessible on IATA's website give an overview for each of them. In addition, both videos feature a panel discussion where the Think Tank participants discuss the outcome of each idea.

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# Overview

Today more than ever, airlines need to focus on strengthening their financial resilience while serving their customers in the best possible way.

In this turbulent reality, there is an opportunity for airlines to acknowledge that finance and payments are much more than just back-office processes and ways to collect the amount of the sales. They are key elements to integrate in their overall strategy for the achievement of their corporate objectives.

They will not only contribute to bring more value for the customers, to better sell products and services, to create value for shareholders but also contribute to increase the organizational performance with cost reduction and funds availability in a safer and fraud less environment.

Airlines may reposition payment in their corporate strategy and integrate it with their commercial strategy in order to foster value creation.

Benefits of doing so include maximizing the customer reach and payment conversion success, improving the customer experience, stimulating innovation, while securing the cash flow for airlines, minimizing payment related costs and widening the payment options to the ultimate benefit of end customers

These benefits can be realized by focusing on the following five key dimensions:

## 1. Customer reach

Identifying new customers opportunities is an ongoing core activity for airlines. Customers, new ones like current ones, may adopt new payment behaviors, making it essential for airlines to adapt and integrate those new payment methods in their offering, ensuring customer attraction and retention.

Accepting new digital forms of money, such as the new emerging Central Bank Digital Currencies (CBDC), may be a source of value creation as these can facilitate the attraction of new types of customers using new payment instruments. that are stable (Central Bank backed) and safe for its value (one-to-one conversion with fiat currency).

By integrating a new payment instrument like CBDC, for instance, in their commercial strategy, airlines may further improve their customer experience, contributing to creating more revenues while potentially reducing payment related costs.

The Think Tank idea "**Central Bank Digital Currency in Airline Retailing**" explores the impact and potential benefits for airlines of the Central Banks Digital Currencies (CBDC).

## 2. Payment conversion

Payment plays a critical role in the sales conversion: abandoning a purchase because of payment-related issues is triggering a lost sale. At best, the customer may try a different sales channel, but their experience will be affected.

Therefore, an optimal payment conversion at time of purchase process will not only instantly guarantee a smooth and seamless customer experience but it will also create trust for future sales.

Such optimal payment conversion is to be targeted in all sales channels.

## 3. Costs of payment

The cost of selling and accepting / processing payments can be significant. The airline business is a global business. It usually requires selling flight and ancillary products using multiple payment instruments, multiple payment intermediaries, multiple currencies while it triggers operational and compliance costs.

The following cost types may be considered when looking at overall payment costs:

- Merchant & processing fees (incl. from intermediaries, from IATA, etc.).
- Payment authorization / processing costs.
- Operational costs (e.g., systems, labour, exceptions management, maintenance, etc.).
- Compliance costs (e.g., PCI DSS, Strong Customer Authentication, anti-money laundering, etc.).
- Foreign exchange costs.

# Overview

The Think Tank idea of “**Foreign currency exchange opportunities in the world of Offers and Orders**” explores the advantages of offers and orders flexibility to minimize foreign exchange (FX) risks in indirect sales channels, and in the future of interline partnerships interchanges. The removal of constraints imposed by existing currency rules and practices will leave airlines in a better position to identify, measure, control and ultimately minimize foreign exchange risks inherent in today’s global travel market. It will allow airlines to be more customer-centric providing multi-currency offerings.

In absence of upfront detection, airlines are encouraged to implement, at a minimum, post-transaction detection controls. In the case of an indirect sale where the payment process is supported by intermediaries and where money is potentially held in trust by them, the airline needs to conduct adequate risk management activities to prevent any risk of unpaid sales or fraudulent sales.

In all situations, airlines might consider accepting and favoring payment instruments that most mitigate their exposure to risk and fraud.

## 4. Cash flow availability

With a steep drop in demand and flight cancellations on both domestic and international routes since the beginning of the COVID-19 crisis, airlines have reduced capacity on a scale that the industry has never seen before. Airlines strive even more for cash flow availability.

Airlines need to rely on cost-efficient payment instruments that address their customers’ needs and secure the collection of sales amounts in a minimum amount of time.

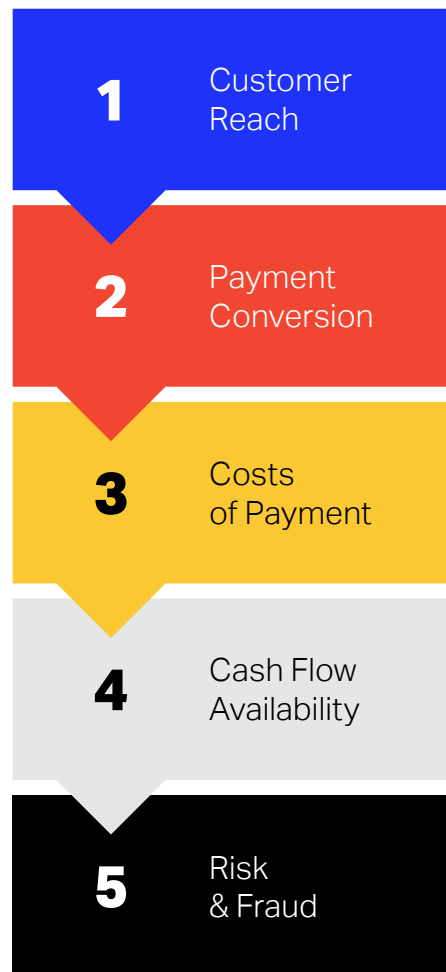
Cashflow availability, speed, and certainty need to be considered by airlines when accepting a payment instrument.

## 5. Risk and fraud

Risk and fraud exposure usually amount to the level of the sale (airfare, ancillaries). Not being protected against fraud exposes the airline to significant losses that may severely affect its financial health.

Airlines’ sales may be concluded in both customer-present and customer-not-present environments.

In a customer-not-present environment such as an online sale, airlines may be exposed to an increased risk of fraud. To mitigate such risks, ideally fraud detection controls are put in place upfront.



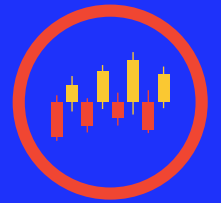
# 2021 New Ideas

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**1. Central Bank Digital Currency**  
in airline retailing



**2. Foreign currency exchange opportunities** in the world of 100% offers and orders



# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



### Vision

Create awareness on the opportunities and implications of Central Bank Digital Currencies (CBDC) on airline retailing to allow ample time for the industry to adapt to this emerging form of payment.

### Mission

- Review the global CBDC trends, the goals of Central Banks in selected countries, and the regulatory and technical implications in CBDC space.
- Provide an overview of the multitude of CBDC implementation approaches and their possible impact on payments processing in the industry.
- Create an industry awareness on CBDC and draft a recommendation for a potential industry approach to the possible introduction of CBDCs in airline retailing.

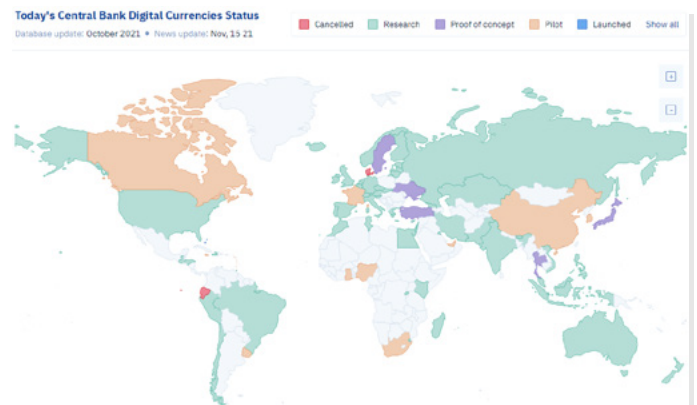
### Current Situation

The payment landscape is fast evolving with innovation and new forms of private and public moneys emerging.

The use of digital payments is rising rapidly, together with new customer payment expectations and behaviors. Cryptocurrencies and stable coins have become more popular.

A growing number of companies across many industries (e.g., car manufacturing, insurances, hotel and tourism, airlines, card companies, food retail, etc.) are starting to embrace cryptocurrencies, allowing customers to use them as an official method of payment for the purchase of their goods and services.

With cashless market trends and payment alternatives rising, some Central Banks have progressively started looking at CBDC as an alternative to cash as a physical form of payment. Others may have started to realize that they have an opportunity to provide an alternative to cryptocurrencies but also be a catalyst for innovation in their own markets and transform their financial settlement infrastructure.



Source: <https://cbdctracker.org>  
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According to the **CBDC tracker** (\*) at the end of September 2021, no less than 81 countries (representing over 90 % of global GDP) are now exploring the definition and implementation of a Central Bank digital currency in their respective market.

Fifteen countries are piloting CBDC implementation, including the People's Republic of China (PRC) that targets Digital Yuan to start during the upcoming Winter Olympics in February 2022 for both domestic and foreign visitors. Five countries have fully launched a digital currency, at the time of writing this White Paper.

### What is a Central Bank Digital Currency (CBDC)?

CBDC is the digital form of Central Bank money, denominated in the national unit of account, distinct from electronic reserves and physical cash.

In simple terms and according to the BIS (\*Bank for International Settlements) Innovation Hub, a CBDC would be a digital banknote. It could be used by individuals to pay businesses, shops, or each other ("Retail CBDC") or between financial institutions to settle trades in financial markets ("wholesale CBDC").

This White Paper "Central Bank Digital Currency, as a customer payment instrument, in airline retailing" focuses on the opportunity of retail CBDC in the airline industry. The CBDC may become available to the general public for all transactions, including the sales of airfare and ancillaries.



# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



Several CBDC market initiatives have been reviewed to understand ongoing CBDC projects and opportunities in regions like the Americas (live in Bahamas with the “Bahamas Sand Dollar” and in Eastern Caribbean with “DCash”), in North Asia (PRC), ASPAC (Thailand and Korea), in Europe (ECB initiative and Sweden) and Africa (Nigeria). They have been prioritized based on their advancement level at time of the Think Tank exercise.

The first key findings are that the CBDC initiatives are domestically triggered (European Central Bank for Europe) with a timescale and a path specific to each market.

Most of the projects are planned for a duration of several years, given their complexity including foundational issues, supporting the fulfilment of public policy objectives, preserving the central bank’s ability to fulfil its mandate while protecting the monetary and financial stability of the country.

The Bahamas and the Eastern Caribbean have started to be live, offering central bank digital currency to country residents, respectively from October 2020 and April 2021. At time of the white paper issuance, Nigeria Central Bank also advised e-Naira is live effective 01 October 2021 in the country.

All other projects mentioned above are well advanced, with the PRC project being the most ahead.

The China Central Bank (\*) has already started piloting the Digital Yuan with 20,87 million personal wallets / 3,51 million corporate wallets opened and transaction volumes 70,75 million / transaction value RMB34.5 billion at end June 2021.

### Why a CBDC?

The rationale behind the decision of implementing a CBDC might differ from one central bank to another.

From investigations made on more advanced CBDC projects, the key motivations may be about:

- Providing an alternative to decreased or already low cash usage (Eurozone, Sweden, PRC, etc.).
- Adopting new payment instruments and the rise of alternative payment instruments including private digital currencies (PRC, Eurozone, Sweden, other countries).
- Mitigating high financial exclusion: barriers to accessing payment services vary across and within jurisdictions, including cost, geographic factors, connectivity, demographics, low level of economic development and access to verifiable identification.
- Reaching international reserve status.
- Enhancing payment infrastructure and efficiency.
- Nigeria, for instance, announced at the end of October 2021 the launch of the eNaira to digitize payments and increase financial inclusion in Africa’s most populous country. With over 62% of Nigerians aged 24 or less, it is making the eNaira available to a largely digitally native population that may not have access to banking traditional services.

### Key principles of CBDC (as per the projects that were reviewed)

- The general scope is a domestic solution driven and domestic use minded. Expansion to cross-border usage should follow foreign exchange patterns, similar to traditional physical cash.
- Planned to be cash-like according to central banks one-to-one.
- Assumed coexistence of physical cash / digital cash.
- No-interest bearing from Central Banks (as known at current state); it is expected that the CBDC will follow traditional physical cash, which is generally non-interest bearing, unless it is placed on deposits with authorized institutions, including institutional interest-bearing deposits with Central Banks. In case it is placed on a deposit account, it is expected to be interest bearing (e.g., e-Krona initiative in Sweden).
- Digital means of payment are peer-to-peer, meaning that there is no intermediation in the payment that is seamless and uninterrupted from payer to payee.
- AML / KYC / CFT responsibility on wallet distributors side (commercial banks, others).



# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



### Legal and governance frameworks

In all CBDC projects reviewed, the legal structure of CBDC is a direct claim on the central bank but payments and real-time transactions are facilitated by financial intermediaries including commercial banks.

So, the developed model for most CBDC projects, at time of the Think Tank exercise, is that the Central Bank is issuing the digital currency and relies on authorized / certified financial institutions for its distribution and usage. There are therefore two levels of actors and the Central Bank does not deal directly with customers.

Appropriate national legal, regulatory supervisory and oversight frameworks are worked on by central banks to ensure customer trust, resilience, security, and confidence.

### Customer access

CBDC may bring new digital opportunities to customers by making it available in e-commerce, being instant, available 24 / 7 as well as supporting other features such as programmability and ability to make micro-payments.

The customer may use it either through a mobile phone application (iOS / Android), with a physical payment card used to access digital wallet or through any other secure device.

The customer may access a CBDC, after required identification, and execute payments through an account-based system (bank deposit) or through a digital token (solution retained in particular in the Bahamas, Sweden, European Area and Thailand).

People Republic of China CBDC supports the account-based system.

With an account-based retail CBDC, the customer will gain access using its own identification. All users are identifiable.

With a token-based retail CBDC, the customer will gain access using private / public keys. Users can be anonymous.

The infrastructure retained by projects could be based on:

- A conventional centrally-controlled database.
- Distributed Ledger Technology (DLT) that stores data multiple times and in physically separate locations.

- The security and verifications might differ from one project to another. All projects reviewed, except Sweden, rely on both technologies. Sweden relies on DLT only.

### Case for change / Using CBDC in airline retailing

#### CBDC for the customer

In 2014, Latvia's flag carrier, airBaltic, pioneered the acceptance of digital currency as a payment method for airfare.

Today, several airlines do accept digital currencies (cryptocurrencies, stable coins) while others rely on intermediaries for the airfare sale and the acceptance of crypto currencies.

In the retailing world, more and more customers adopt cryptocurrencies and wish to use it for their purchases, with a wide range of amounts. But why using a digital currency to purchase airfare or ancillaries?

#### Customer convenience

Customers can make their purchase from any location providing they have access to the internet through mobile phone or any other device.

There is no need for carrying a physical wallet or payment card – a simple login to an e-wallet is enough.

#### Seamless

Digital means of payment are peer-to-peer as there is no intermediation in the payment. The payment process is seamless and uninterrupted from payer to payee.

#### Confidentiality and anonymity

Digital currencies that support blockchain technology provide confidentiality and anonymity for the customers. Most provide traceability and levels of encryption that preserve the confidentiality of personal identity.

With the rapid and continuous adoption of cryptocurrencies and stablecoins by customers and merchants, central banks have stepped up their efforts to explore the implementation of their own digital currencies.

# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



Airlines may want to carefully follow the implementation of CBDC, in particular in their domestic market and major foreign markets.

Customers who show a high interest in digital payment solutions, especially the digitally native population, may show even more interest in CBDCs as they are sovereign-backed currencies and may be easily interchangeable with the corresponding fiat currency of the relevant country. There is a direct central bank liability as opposed to the other digital payment instruments that are privately issued and possibly more volatile.

Consumers look for trust, security, acceptance of their payment instruments and benefits. Tech savvy users and early adopters of new technologies such as mobile digital wallet will be interested to start using CBDC especially for their benefits as opposed to other possible digital currencies.

With the progressive implementation of CBDC in key markets, airlines may consider accepting this payment instrument in these markets to meet their client expectations.

### Technology and customer experience of CBDC

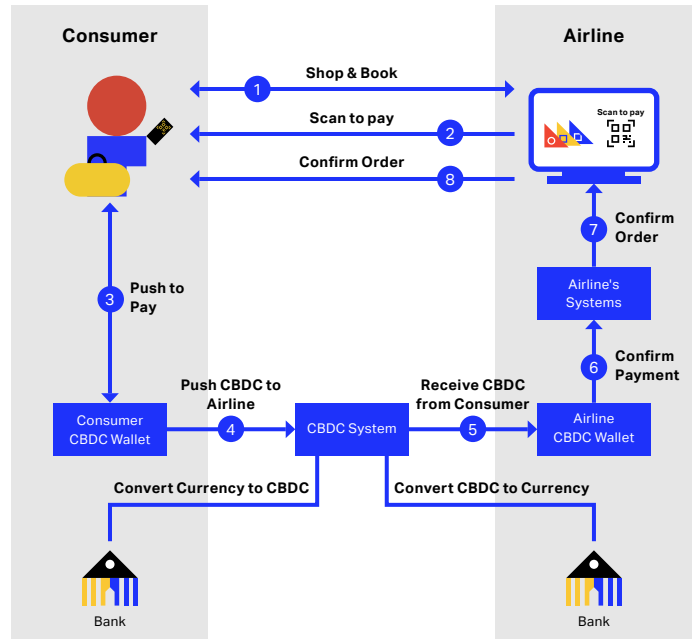
For the customer, the use of the CBDC should not impose any additional requirements or hurdles. The payment experience should be happening seamlessly, as is the case for all other forms of payment offered by the airline.

A token based CBDC is the digital version of physical cash. The liability issued by the given central bank is in the form of a digital token. The token represents the digital asset on a blockchain (technology). Similar to account-based CBDCs, token-based CBDCs could also be used for retail payments. However, unlike the account-based central depositories, liabilities would not be stored in accounts at a central bank, as traditionally done. Rather, they would be stored in digital wallets, similar to the technology used for cryptocurrency transactions. Mobile apps are probably the most convenient form of wallets regardless of whether CBDC is tokenised, or account based. The Wallet is provided by the central bank, so it gives the same liability and protection as cash account based.

However, for policy makers, the evaluation and deployment of this technology is still in progress and will be done very cautiously. A final assessment in terms of technical implementation is therefore not yet possible.

This will have no effect on the payment process itself. Below, we distinguish between direct and indirect sales. In the example of indirect distribution, a travel agency acts as an intermediary.

### CBDC – Direct Sales



### Process flow – Direct sales

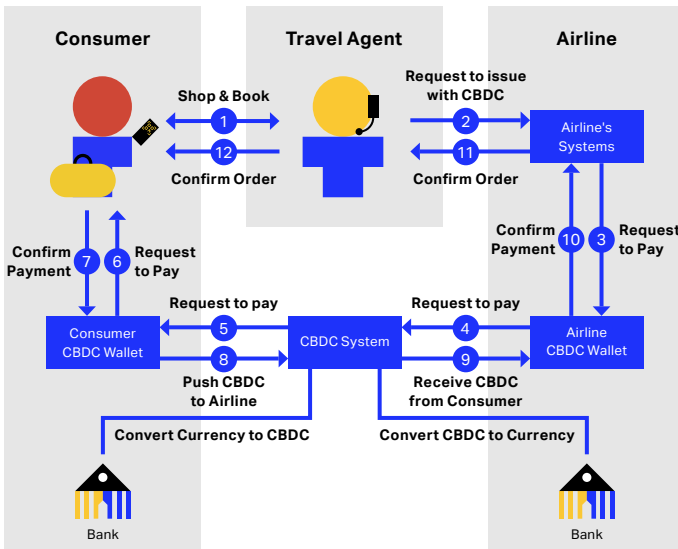
In direct sales, the traveler acts independently by initiating the booking and payment of the ticket with the airline. Depending on the technical setup, the airline will provide the payment options, including the CBDC. By selecting CBDC, the traveler will initiate the payment process where the payment information (Reference number, QR code or similar depending on the technical setup) will be displayed by the airline's interface. The traveler makes the payment using the CBDC wallet and receives the ticket from the airline after confirmation.

# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



### CBDC – Indirect Sales



### Process flow – Indirect sales

In indirect distribution, the traveler is represented by a travel agency and the user experience remains the same. The travel agent will inform the traveler with the different offers and payment instruments accepted by the given airline. Based on the offer, the traveler will request the travel agent to initiate the ticket issuance and provide the CBDC payment ID to submit it to the airline along with the ticket issuance request. To secure the payment before issuance, the airline through its CBDC wallet will initiate the CBDC payment request to the traveler.

The traveler will receive the payment request on his CBDC wallet. After validation of the purchase, the traveler will execute the payment. The airline will receive the notification of the payment confirmation through its CBDC wallet and then initiate the ticket issuance before sending it to the traveler through its travel agents.

In the step 2 of indirect sales process flow, data elements related to the customer / wallet identity and the customer's intention to use CBDC, will have to be communicated from the travel agent to the airline. Appropriate standards will have to be defined for indirect sales.

Depending on the design, CBDC might be built on technology already in use for the benefits of the customer and the merchant. Customers may, in that case, be able to easily set up the account, service, app or device. On the merchant side, Airlines may integrate CBDC in their existing payment infrastructure (including payment gateways, payment providers etc.), therefore using systems already integrated with their existing accounting and distribution systems.

### Legal and regulatory framework aspects of CBDC

Relevant regulators and authorities, when thinking about implementing CBDC may need first to look at legal foundations of CBDC under the central bank law and its treatment under monetary law.

According to IMF, authorities may have to resolve key questions around the central bank authority to issue digital currency, the recognition of CBDC as a real currency and whether it can be considered as a form of legal tender (namely a money that is legally valid for the payment of debts and that must be accepted for that purpose when offered).

The issuance of CBDC in a country may also require the country to look at implications on tax law, private law (including property law), contract law, payment systems and settlement finality law, insolvency law, privacy and data protection law and private international law. It requires as well to look at the AML / CFT framework.

Since the CBDC is issued by a central bank in the form of a liability of that bank, we could consider it as risk-free for the customer.

The legal treatment of CBDC under central bank and monetary laws very much depend on its operational and technical design features.

CBDC may be token-based or account-based. They are legally very different concepts and forms of money.

- If token-based, it might be considered as a new form of money.
- If account-based, CBDC would be considered as existing money expressed in digital form.

The central bank law shall be elaborated on consistent, sustainable legal basis.

The IMF working paper estimates that few central bank laws were offering in 2020 sufficiently strong legal basis.

Then, once a legal framework has been well defined in a country and a CBDC deployment plan has been defined regarding its implementation in retail activities, a key question remains for merchants in that country:

- Would CBDC, as digital form of fiat currency, become mandatory to all merchants in this country including airlines on the same basis as the fiat currency supported with physical cash?

# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



The recent example of implementation of the e-Naira CBDC wallet in Nigeria, effective 01 October 2021, highlights that the e-naira must be accepted by merchants in Nigeria. The Central Bank of Nigeria, in a statement, advised that while today the physical fiat of naira must be accepted in the country, the same way e-naira must be accepted by merchants as a mean of payment.

Furthermore, merchants in Nigeria shall be required to accept e-naira as an alternative to cash and be capable of providing remote payment solutions as well as online capabilities. This recent initiative in Nigeria mirrors the mandate by El Salvador a few months back where merchants had to accept bitcoin cryptocurrency as legal tender in the country's own digital currency experiment.

Other explorations of CBDC projects do not indicate, at the time of this white paper, any obligation for merchants, airlines in particular, to accept the given CBDC and to offer it to their customers.

The outcome of our investigation indicates that the enforcement for the merchants would be applicable in case the CBDC has been developed on account-based model, which is recognizing it as being the digital form of a money already existing (as opposed to token-based which is considered as a new form of money).

Looking at the legal and regulatory frameworks, the key recommendation is that airlines would need to review, in particular at time of CBDC implementation in their "home" and main markets, if there is any merchant enforcement to accept the digital currency issued by the given central bank.

### Accepting CBDC as a payment instrument

In the exploration of the existing CBDC projects made, it appears that none are intended to replace physical cash. CBDCs are meant to complement it. Furthermore, digital currencies are supposed to behave like cash physical money for customer and for merchants.

All projects indicate that the digital currency follows exactly the physical money value and central banks see it as an extension of one of their prime responsibilities to supply and control state issued and guaranteed cash to the market. It is also a way for Central banks to maintain their relevance in state-controlled money distribution (versus private money) while there is fewer physical cash in the given markets.

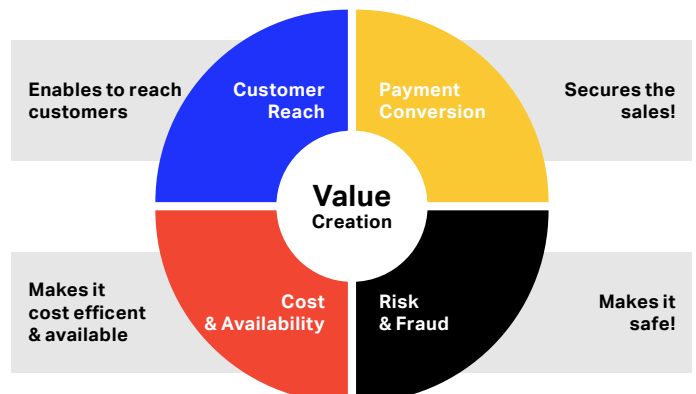
Most projects suggest that it will be the role and responsibility of commercial banks and other intermediaries (in line with local legal framework) to distribute the digital currency to end users.

The published documents omit any notes regarding the commercial aspects between distributors of the CBDC and the consumers or the merchants. It is unclear what fees, if any, apply to merchants, such as airlines when they accept these digital currencies. It is likely however that they will attract transaction and account maintenance fees in a way that is similar to what is observed for other forms of payment. A lower cost of acceptance vs. traditional forms of payments may be one of the drivers for merchant adoption.

Depending on the speed of adoption in a given market, transaction conversion may be the next biggest reason for an airline to offer acceptance of CBDCs. Ensuring that their customers are able to pay with their preferred payment method is vital to secure as many successful bookings as possible.

Airlines may have also the opportunity to improve the customer experience. Many of the CBDC project descriptions suggest the use of QR codes to trigger the payment process with the passenger's mobile phone – certainly an improvement over the real "cash" payment.

Given the benefits that CBDC may provide in increasing customer reach and securing payment conversion, Airlines may also consider accepting and promoting CBDC amongst their customers.



# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



Within the elaboration of their payment strategy, airlines may look at maximizing the customers' ability to use their preferred payment instruments through the different sales channels. When looking at the customer experience, they may design product availability and payment ability at the same time.

Accepting CBDC and differentiating it from other payment instruments by incentivizing its usage may contribute to expand sales or increase customer retention when new consumers' payment behaviors will rise with the adoption of CBDC.

With current or new customers, airlines may also have the opportunity to introduce new products coupled to new payment instruments such as CBDC.

Airlines may have also the opportunity to improve the customer experience and secure further the payment conversion. It has been observed so far that all central banks enable the one-to-one conversion to physical cash. Lastly, offering multiple payment instruments to customer comes with costs and benefits.

When defining individual payment strategies, airlines may want to compare and balance possible revenues with costs and benefits in order to identify their best options. They may offer different conditions to their clients per payment instrument used.

By integrating CBDC in their commercial strategy, airlines may contribute to creating possibly more revenues while potentially reducing payment related costs.

### CBDC potential limitations and challenges for airlines

In addition to the above cost-benefit analysis, the following potential limitations and resulting challenges for airlines should be taken into consideration. Resolving those will be crucial to enable CBDCs to become widely accepted payment methods in the airline industry:

- CBDC is driven domestically with local legal framework: Airlines may need to adapt to each CBDC by potentially using different technology, local limitations for usage (amount thresholds) and subject to local legal framework (governing law for disputes, governing jurisdiction and property laws). If not designed with the international dimension in mind, a fragmentation of CBDC systems, similar to the fragmentation of existing payment systems, is possible. Airlines may need to address this challenge on their own or rely on payment gateways to solve it.
- Furthermore, and given the international nature of business for airlines, a fragmented approach of domestic initiatives may be source of additional costs and complexity for airlines. Advocating for a CBDC global design, including cross border capability, will be of paramount importance for airlines.
- Depending on local authorities' decisions, CBDC may be accessible only to residents in the country or territory.
- At the time of the research, there is no tangible indication at this stage that CBDC usage would be subject to merchant acceptance enforcement or customer usage. However, mandatory acceptance may not be excluded in countries in the future. The question of enforcement might strongly depend on how the CBDC has been defined in the legal and regulatory framework, namely as a new payment instrument or as the digital form of the money in place in the country. Airlines need to remain aware of the situation in their relevant markets.
- The adoption of the customers for CBDC will depend on the CBDC availability at distributor level (commercial banks, others) in the respective targeted markets.
- There is a risk of low adoption by countries for cross border usage as it may exacerbate the risk of currency substitution, whereby a foreign digital currency displaces the domestic currency to the detriment of financial stability and monetary sovereignty. This risk is expressed as a "potential harmful spillovers with currency substitution".
- As a way to mitigate risks, central banks may limit the access to CBDC to subset of allowed transactions only. Would airline sales fit in this list?
- Airline Merchants and PSPs may consider the level of infrastructure investment likely needed for a successful acceptance of CBDCs and multiple stablecoin networks.
- Providers of financial services infrastructure may have to monitor the suitability of their design choices for future interoperability with digital currencies.

# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



### Benefits of CBDC in airline retailing

#### For the airline customer

- Safest form of money available for the customer (as a central bank money).
- The Airline accepts and supports the payment instrument he / she is willing to use.
- The CBDC is a mobile payment solution, user-friendly, that might be based on already existing technology, accessible with existing devices and for any type of good and services.
- Depending on the CBDC design retained, it might be open to person-to-person (P2P) payments as well as public services or utilities payments.
- Public authorities may incentivize consumer use of CBDC by disbursing social benefits and transfers to individuals, allowing employees to receive salaries in CBDC and enabling them to pay their taxes in CBDC.
- This is e-wallet that, in principle, enables payment / transfer / withdrawal within commercial banks terms and enables seamless conversion to physical cash.
- Can be used for both online payment and offline payment (Airline sales office, airports, inflight sales).
- Customer may be offered by CBDC distributors (commercial banks, others) other financial services to support the sales (borrowing, interest, etc.).

#### For the airline

- Meets the customer needs and expectations (online, offline payment experience at airline agency sales, at airport, inflight) and adapts to customer payment behavior.
- Enables the airline to reach customers that are willing to use digital currencies, in particular, millennials having the highest propensity to travel by age group and exerting a massive influence on society, technology and commerce. They are savvy users of technology and early adopters of new technology such as mobile digital wallets

- Accepts a payment instrument that is stable, safe and central bank supported with one-to-one conversion to physical currency.
- Alternative cost-efficient payment instrument as a central bank-backed option.
- Accepts a payment instrument expected to be commonly used for multiple payment purpose (retail purpose, public services purpose). Therefore, the customer will become familiar with CBDC usage.

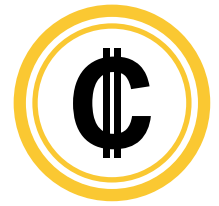
#### For the seller / intermediary

- Able to propose to the customer a payment instrument that is accepted by the airline merchant.
- Able to attract new customers that are willing to use CBDC to pay the airline.



# 2021 New Ideas

## 1. Central Bank Digital Currency in airline retailing



### Next steps

1. Given the outcomes of the Think Tank group investigations, the question is not if Central Bank Digital Currencies will be made available in many markets, but when: a few digital monies are already in production and more than 80 central banks are working on it now, including major domestic markets from G20 economies.
2. The digital form of money, that is CBDC, will complement the usage of existing payment instruments in retail. Aside from the legal framework defined by country authorities, there is no limitation identified to the usage of CBDC in airline retailing.
3. CBDC may be a source of value creation for the airlines that is expected to increase with the adoption of that new digital form of money.
4. The timelines are on a scale of minimum 2 to 5 years for the pilot central banks, including but not limited to:
  - Digital Yuan: Official presentation at Olympic Winter games in Beijing 2022 and general launch targeted as early as 2023.
  - ECB has approved a study phase for 2 years starting in July 2021. After a Go/No Go decision, implementation phase may follow.
  - Digital US dollar: Federal Reserve Chair Jerome Powell advised in April 2021: "It is far more important to get it right than it is to do it fast". The research project is expected to last two to three years. A separate policy process would be required before the Fed can create a central bank digital currency of its own.

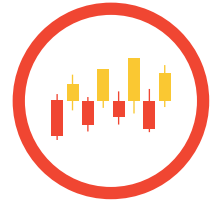
Based on what is stated above, the Think Tank group recommends that:

- Airlines monitor the evolution of CBDC in their respective countries and advise IATA of any significant development in this area. Airlines may use the following email address [IFSPaymentsProg@iata.org](mailto:IFSPaymentsProg@iata.org) to contact IATA.
- IATA continues to monitor the evolution of CBDC globally and, in consultation with the Industry Financial and Distribution Advisory Councils, proposes the implementation of industry actions in the areas of standards and advocacy, in particular for the international usability of CBDC, if and when appropriate.



# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### DISCLAIMER

All examples, illustrations, diagrams, simulations, etc. used in the document are purely hypothetical and illustrational. As such they are not intended to depict any actual airlines, agents or other 3<sup>rd</sup> parties, fares, offers, rates of exchange and/or risk exposure levels, or any real live situations.

### Vision

Explore advantages of offers and orders flexibility to minimize foreign exchange (FX) risks in indirect<sup>1</sup> sales channels and in the future of interline partnerships interchanges.

### Vision description

A world of offers and orders allowing airlines to make offers without filed schedules and fares and to fulfil orders without PNRs and tickets will allow for better control of airlines currency practices in the indirect channel and at all stages of the transaction journey – from setting internal price points in a currency of choice, to pricing offers against them to match a customer's preference. And all whilst using an airline's preferred FX sources for conversion at each stage<sup>2</sup>.

The removal of constraints imposed by existing currency rules and practices will leave airlines in a better position to identify, measure, control and ultimately minimize foreign exchange risks inherent in today's global travel market. It will allow airlines to be more customer centric providing multi-currency offerings. This is because more information relating to seller and/or customer payment preferences and intent can be communicated during the offer and order processes, enabling a move away from today's fare filing and related currency rules model.

This paper aims to highlight the case for change and provide a high-level set of recommendations to address FX opportunities in the 100% offers and orders ecosystem.

### Current situation and pain points

#### Indirect sales

In the existing indirect distribution channel today, airlines rely on third parties to price itineraries against separately filed scheduling and fare content and, as a result, are not in full control of their offers the currency they are priced in. This is mainly due to current existing industry fare construction rules that use a variety exchange rates that suffer from delayed updates and inflexible sourcing at a time of increasing market volatility. These rates and rules are prevalent throughout indirect distribution, reporting and settlement processes<sup>3</sup>.

These rates and rules open opportunities for relatively risk-free exploitation of price or price differences on different exchanges or markets by a growing number of third-party participants in the distribution chain. As a result, airlines can be exposed to unexpected foreign exchange risks, cross-border currency repatriation costs and, in some situations, exposure to blocked funds risks when sales result in ticket issuance in markets with volatile and even restricted currencies. Please refer to Appendix 1 for the detailed example of the revenue loss risk due to exchange rate volatility.

In addition, inherent delays resulting from the current settlement process increases currency risks even further as identification of the exposure can also be delayed. In many cases the root cause for the settlement delay is that airline indirect cash sales are settled via IATA BSP (ARC in the US) according to the respective – and fixed – settlement calendars, rather than in real time. For many airlines this may translate into further loss of revenue, cumbersome revenue repatriation efforts, and even blocked funds.

Similarly, card and alternative forms of payment sales are typically settled via airlines own PSPs or acquirers in accordance with their respective agreements, which oftentimes provide for delays and outside of scope of BSP settlement calendars.

Existing indirect distribution practices do not allow airlines some of the FX management opportunities they may enjoy in their direct sales channels. These include but are not limited to options for pricing using dynamic FX rates and hedging, dynamic currency conversion, and multi-currency pricing.

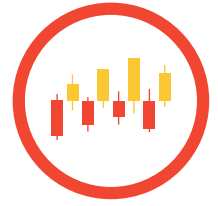
<sup>1</sup> Indirect sales means any sale through any channel that involves a sales intermediary (e.g., through an agent using a GDS or any other channel where a seller is involved in requesting the offer and receiving an order.

<sup>2</sup> For full details on Offers and Orders vision please refer to [Airline Retailing – An Industry Vision for Offers and Orders](#), published by IATA in October 2021 and to Appendix 1 for the summary.

<sup>3</sup> Examples include, but are not limited to – use IATA Rates of Exchange (IROE) for fare construction in Neutral Unit of Construction (NUC), or IATA Consolidated Exchange Rates (ICER) for equivalent fares, etc.

# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### Direct sales

The situation is somewhat different in the direct<sup>4</sup> sales channels. In the direct channel, airlines typically have control over their offer price and the currency it is presented in. They also have significantly more flexibility to monitor and manage FX challenges compared to their indirect channels because legacy fare and currency rules constraints are not binding on an airline's own sales.

### Monetary impact

It is difficult to estimate the monetary impact of FX related legacy standards and rules challenges on airlines revenues given the fact that currency rules were established during a period of relative stability in the FX markets. There is no standard measurement methodology, and the risks of FX exposure in today's volatile FX markets are often not measured or monitored consistently. However, each airline, can start to measure, and monitor its exposure already, especially in the direct channels. Measuring and monitoring is possible but is more challenging in the indirect channels. For the indirect channels, however, airlines will be able to do this easier and better in the future world of 100% offers and orders.

By monitoring and controlling transaction journey and mastering FX practices, airlines should be able to turn FX challenges into value-add opportunities. This paper provides a few recommendations on identifying and monitoring FX risks at the different stages of a transaction.

### Future state – offers and orders world

The world of offers and orders and move to airline retailing is a game changer for indirect distribution and the future of interline partnerships. It allows the industry to move away from the filed content paradigm and into the world of airline retailing, supported by offer and order management solutions and controlled by the airlines as opposed to third parties.

These freedoms allow airlines to take more control over pricing and receivable currencies, do away with the inflexibility of legacy currency rules, and adopt more dynamic FX sourcing and FX management methodologies to support it.

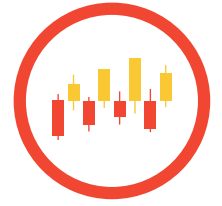
In the future offers and orders based interlining the retailer airline may request offers in their preferred currency to match its needs and mitigate FX risks. At the same time the supplier airline is free to respond to the offer request in the currency of its choice and with full flexibility of using any FX rates of its choice. As such, supplier airline should have the opportunity to balance its FX exposure and related risk and its price competitiveness in accordance with its commercial strategy and treasury requirements.

This new paradigm affords the airlines a new level of flexibility and innovation in the FX management space. However, airlines should be mindful that flexibility and innovation opportunities in this space come with their own risks and costs. These may require airlines to take a fresh look at the way they approach FX and think of balancing costs and benefits.

<sup>4</sup> Direct sales means sales exclusively by the customer for example on 'airline.com' with no sales intermediary.

# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### Recommendations

As the industry moves in the offers and orders paradigm, it affords the airlines a new level of flexibility and innovation in the space of FX management. To take full advantage of this flexibility, it is recommended that airlines consider FX challenges at the start of their airline retailing journey. It is also recommended to review and consider the expansion of direct sales FX management best practices, that may already be in place.

What follows here are a series of recommendations that may help airlines to mitigate some of the known risks of today's legacy processes as well as others that can help to convert FX exposure into revenue opportunities. Furthermore, in combining some of these recommendations, airlines may find further optimization of outcome.

These recommendations may not be a panacea to eliminate FX risks. However, individually or in combination, they represent some first steps in optimizing FX management and reducing exposure risks at various stages in a transaction lifecycle.

More work is needed to research this topic further on the industry level and some of the ideas below may be considered as Financial Think Tank topics for future research.

**"If you can't measure it, you can't manage it". Map and measure FX risks through the entire transaction journey.**

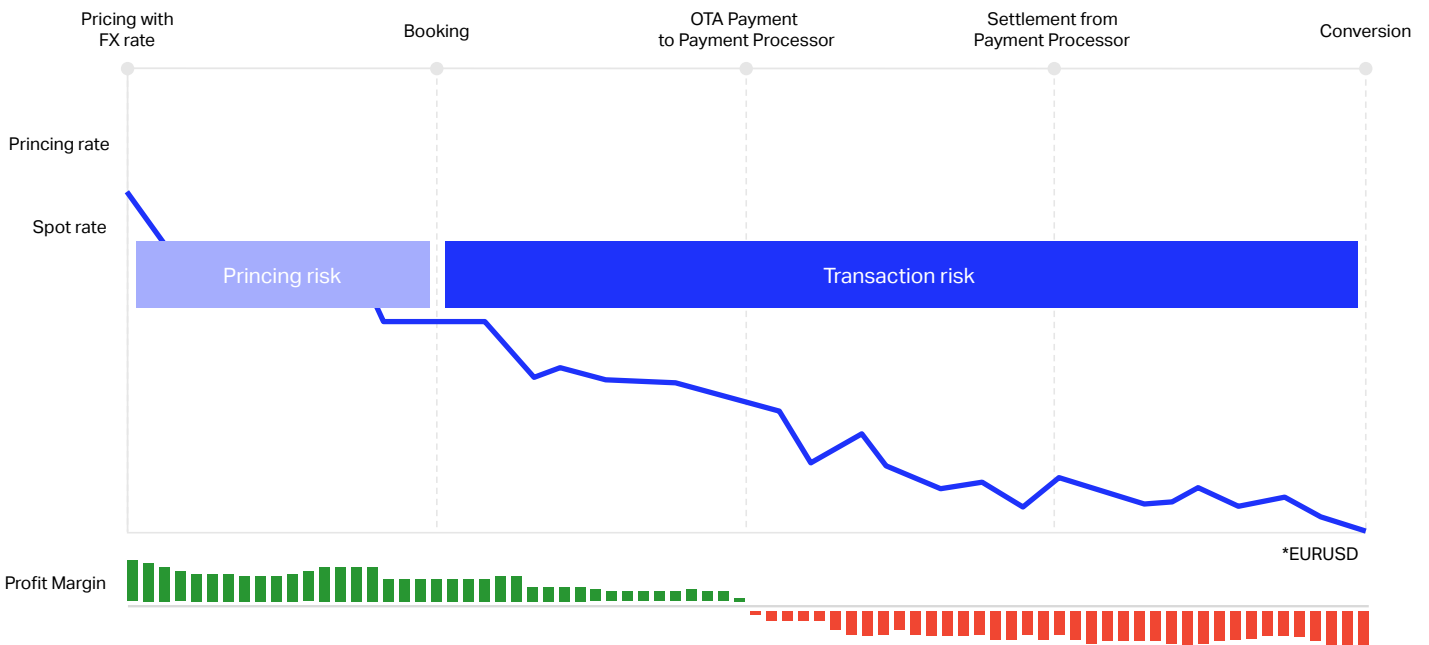
Understanding the risks, and where exactly they occur through the transaction flow will allow airlines and their technology and service providers to be more proactive in managing them.

There are different ways to map and measure the risks as well as a multitude of solutions that exist to support such measures at different stages in a transaction journey.

Mapping and understanding currency risks is an essential first step in defining, selecting, and implementing risk mitigation solutions. It is equally applicable to all sales channels and should be considered for direct and indirect channels, including legacy distribution and offers and orders.

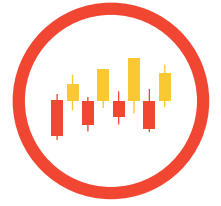
Mitigation solutions may differ from channel to channel and distribution method. These may also depend on the level of control an airline may have over the transaction at the various stages of its lifecycle.

Following is a simplified example of FX risk map over a typical transaction lifecycle:



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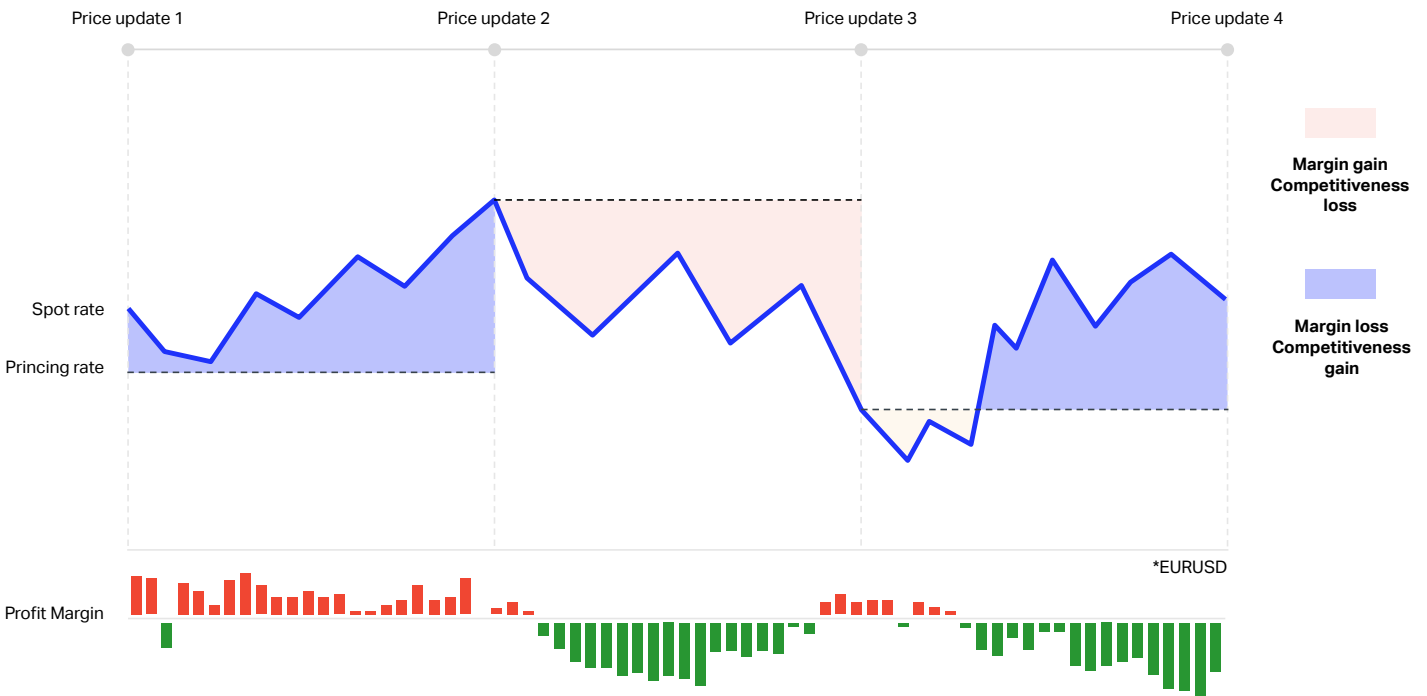
## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### Pricing risk

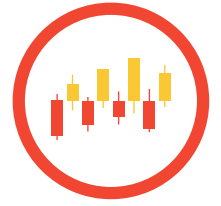
Pricing risk describes the potential FX impact of fixing a given exchange rate over a sustained period of time across offers priced from units in different currency (such as figure 1 above). The risk is only materialized when the offer is accepted, and the order is purchased.

Pricing risk can impact margin in case the selling currency depreciates from the moment the FX rate for pricing is defined until the moment when the booking happens. In case the selling currency appreciates it will be the competitiveness of the transaction that will suffer since technically the price in the selling currency could be lower whilst still expecting the same margin.



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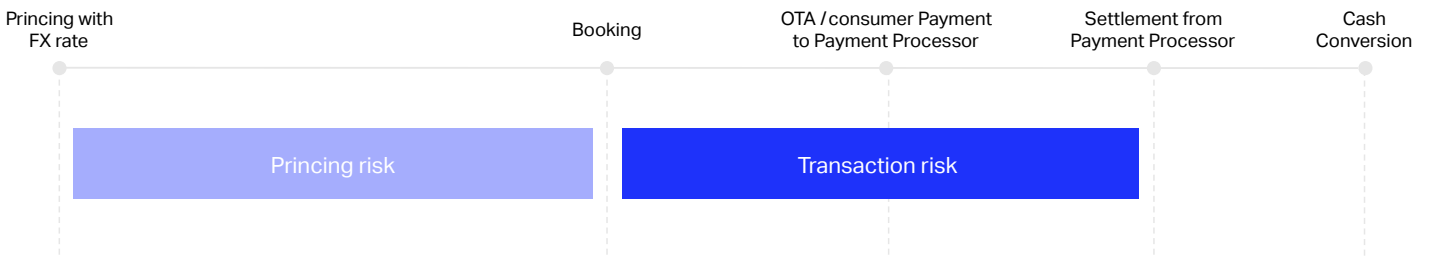
## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



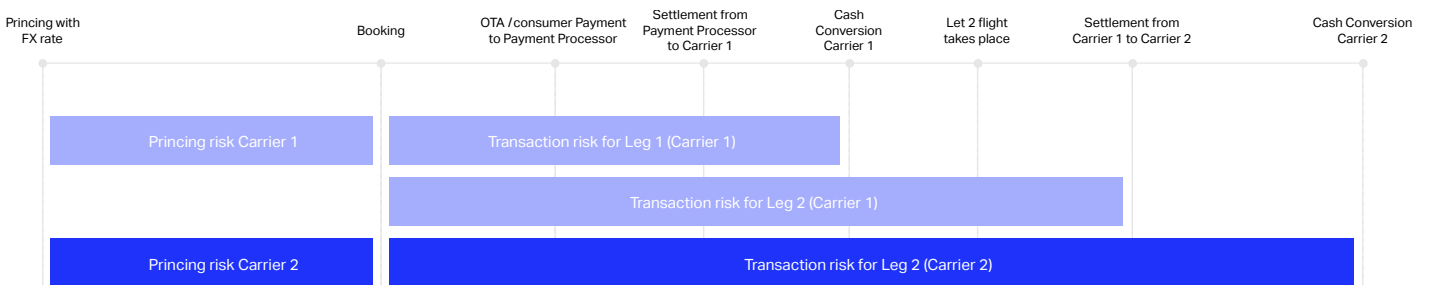
### Transaction risk

Transaction risk represents how the currency can impact profitability from the moment a cross-currency booking is confirmed up until the currency conversion relative to this transaction takes place. The difference between the two rates will determine the FX impact of the transaction once the risk materializes.

Strictly speaking the transactional risk could be further broken down into the transaction itself and the FX impact coming from cash revaluations in case the collection happens in a foreign currency and the foreign currency balance is not converted until a later stage.



In the event the transaction comes from interlining, transactional risk is generally longer and in a sophisticated case where the sell in the traveler currency (i.e., NOK) carrier 1 chooses to buy in a different currency (CAD) than its local one (i.e., CHF) from carrier 2 which local currency is EUR. This can be represented as follows:

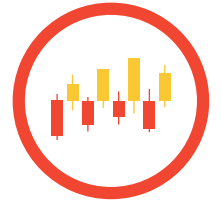


Carrier 1 has a pricing risk from NOK to CHF, transactional risk for leg 1 from NOK to CHF and Transactional risk from NOK to CAD, carrier 2 will have pricing risk from CAD to EUR and a lengthy transactional risk from CAD to EUR.

Airlines need access to simple and easy to implement technology solutions that can integrate with their existing systems to measure these risks efficiently and without adding any operational workload burden. There are such solutions already available on the market, and which can be customized to fit the specifics of airline distribution models.

# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### Dynamic FX pricing

Pricing and FX risk are two inseparable concepts. A company with foreign currency prices that does not update prices with the FX markets for any time window, either 1 minute or 1 year, is generating the so-called FX pricing risk. This risk will impact the margin of every sales, regardless of whether the company hedges the exposure once the booking is materialized. There are two main ways in which airlines can reduce this risk.

The first option is decreasing the time window for price updates, or in other words, increasing the time frequency of these updates (the extreme being updating prices in real time).

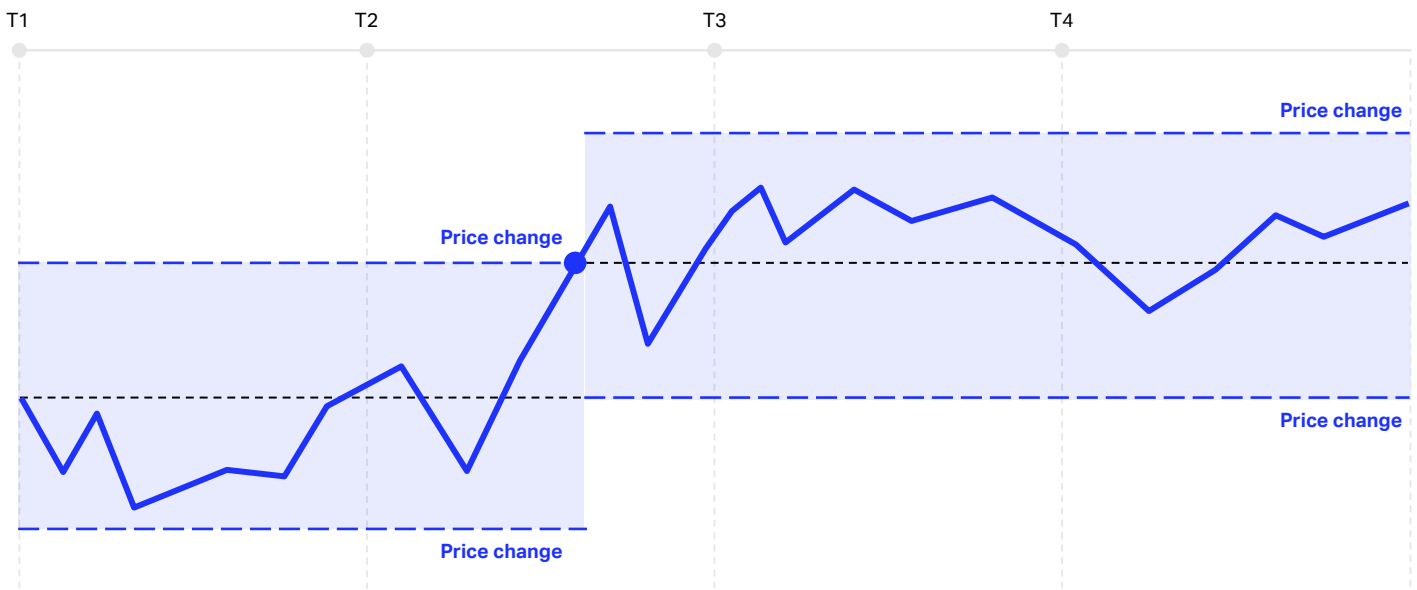
The second option, and usually more convenient is to update prices in case the market moves beyond a desired tolerance

level, which can be set in percentage per currency pair and even per sales channel. This can help to make more informed decisions in finding a more optimal balance between the revenue, keeping the costs down, reducing fraud.

There are banks and fintech in the currency management automation space which provide these kind of software solutions for protecting Airlines from pricing risk.

Dynamic FX pricing can be used in any retail offer construction, including supplier airlines offers to retailing airlines in future of interline scenarios.

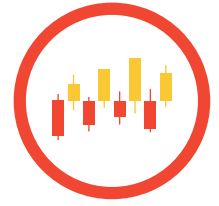
A visual representation of how it can work would be as follows:



A pricing FX rate is set at the start of the process that can represent the spot (as identified in the diagram) or forward rate (to the relevant tenor if applicable), including a mark-up or not (refer to the diagram). Also, a set of tolerance level is defined in percentage, so only in case the rate

changes beyond those tolerance levels the FX pricing rate will be changed. These tolerance levels should be adjusted per currency pair and by each airline relevant team. This mechanism helps balance the margin and competitiveness risk described above.

# 2021 New Ideas



## 2. Foreign currency exchange opportunities in the world of 100% offers and orders

### Dynamic FX hedging

Once a sale transaction in foreign currency takes place in the form of a booking, every second it happens until the funds are settled and finally converted into the home currency, movements in the FX market will be impacting the margins of each transaction.

Being able to collect, process, and hedge the exposure in real time is key to protect such margins. Executing this kind of so-called micro-hedging program (i.e., potentially even hedging every booking as it occurs) in such a precise and timely manner usually requires a high degree of automation.

This is necessary to collect and process the exposure data on a timely manner; to make the hedge calculations according to a desired set of risk management rules; and automating execution either through an embedded MDP functionality provided by the FX risk dashboard, connectivity to the existing MDP or potentially a delegated execution to a third party (i.e., IATA at least for the BSP sales).

Inside the currency management automation software spectrum, we find solutions that can implement these hedging programs by automating the pre-trade, trade, and post-trade process.

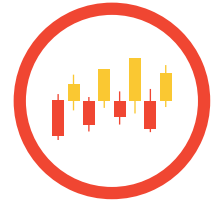
Bringing automation to the hedging process brings even more benefits than the pure margin protection. FX automation benefits include very granular traceability and accountability of hedges done; removal of operational risk by reducing human error in the data management; and financial optimization when forward points are in favor or against.





# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



Practical examples of how these different phases would look for airlines in the offers and orders context are:

Reference	Buy ⓘ	Sell ⓘ	Entry Rate	Created ↕	Spot vs Entry Rate
> PVC_I31182-10000	EUR 857,57	<b>USD 990,00</b>	1,1654	30/Sep/2021	EUR 8,08

For each single cross currency booking / cancellation, the following fields should be automatically retrieved:

- Reference: Unique ID of the transaction.
- Buy / Sell: Amount and currencies being transacted. The amount in bold is the fixed leg to which the airline agency has committed to in foreign currency.

- Entry Rate = FX pricing rate. FX rate used to price the booking / cancellation.
- Creation date: Day when the ticket was sold / bought.

Spot vs entry rate would be a live calculation, while the risk is not hedged between the mid-market Bloomberg rate and the FX pricing rate.

PS-XFWWTF... EUR 42.666,26 **USD 49.255,00** ↗ 1,1654 1,1544 EUR 401,80 (0.94 %) 13/Oct/2021 [Below Minim...](#)

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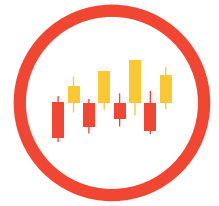
Reference	Buy ⓘ	Sell ⓘ	Entry Rate	Created ↕	Spot vs Entry Rate	Status
> PVC_I31182-10000	EUR 857,57	<b>USD 990,00</b>	1,1654	30/Sep/2021	EUR 8,08	In Position
> PVC_I31182-40000	EUR 3.342,79	<b>USD 3.859,00</b>	1,1654	30/Sep/2021	EUR 31,48	In Position
> PVC_I31182-50000	EUR 935,53	<b>USD 1.080,00</b>	1,1654	30/Sep/2021	EUR 8,81	In Position
> PVC_I31182-60000	EUR 563,05	<b>USD 650,00</b>	1,1654	30/Sep/2021	EUR 5,30	In Position
> PVC_I31182-90000	EUR 1.074,13	<b>USD 1.240,00</b>	1,1654	30/Sep/2021	EUR 10,12	In Position

Positions would be the aggregation of bookings / cancellations by currency pair and maturity the FX P&L would be reconciled at position level keeping the individual traceability. These

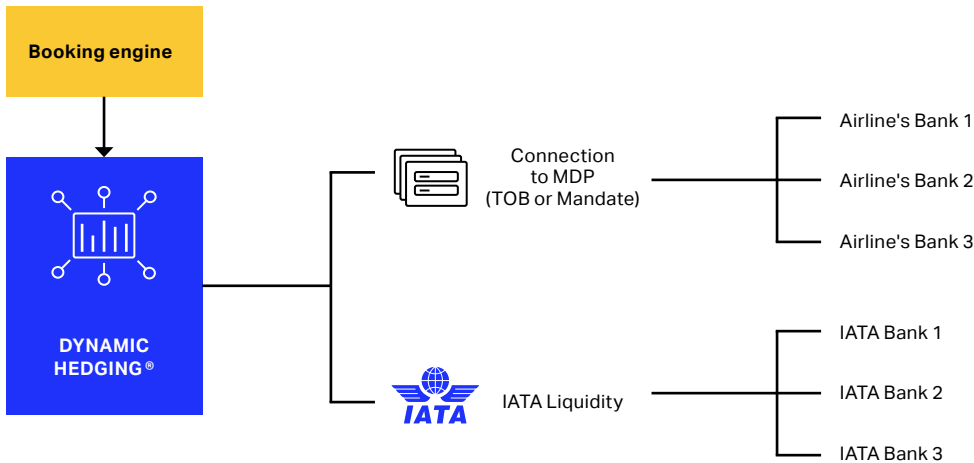
positions could be then used to create an FX trade to mitigate the related FX exposure according to individual rules configured by airline.

# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



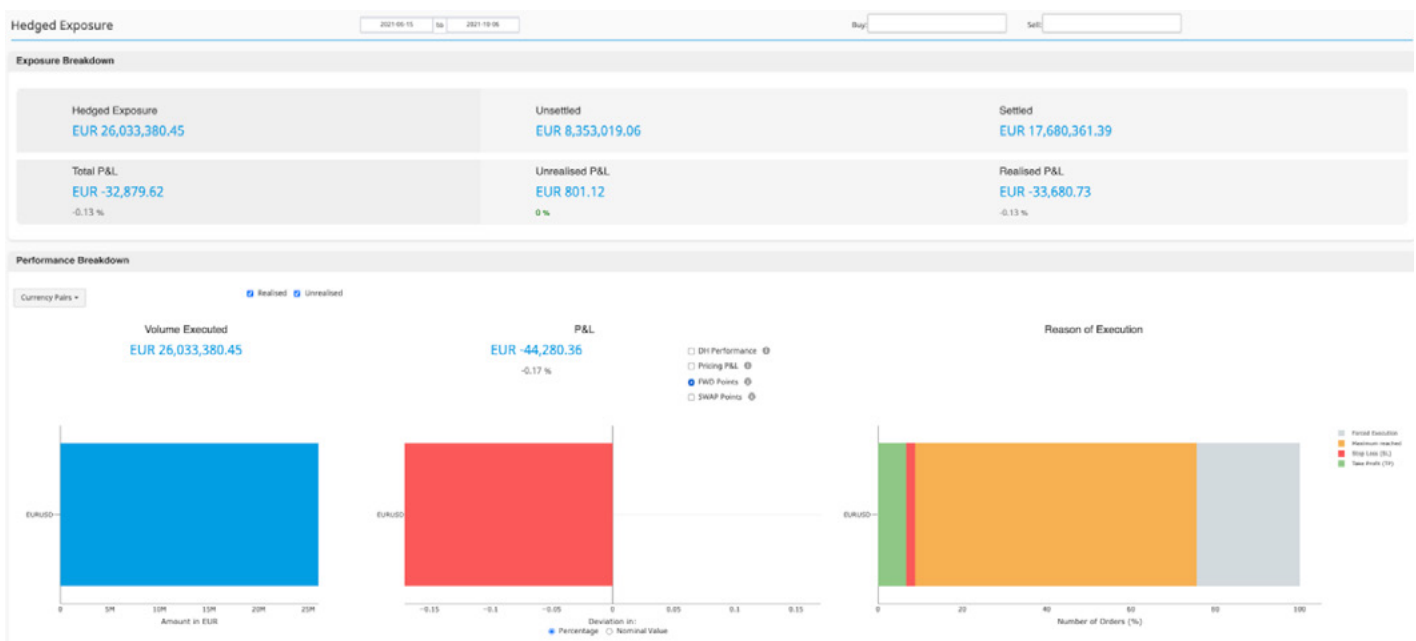
### Trade phase



### Post trade phase

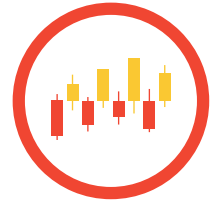
Previous examples were showing the measurement of open FX exposure, on a very transactional level. Above a proposal of tracking leading indicators when it comes to crystalized FX impact on executed transactions as well. It is particularly important to segregate:

- Hedging performance (spot rate at the time of receiving the booking vs spot rate at time of executing the trade).
- Pricing P&L: FX pricing rate vs spot at the moment of receiving the booking.
- Forward points: Impact of forward points from the execution of the trade until maturity.



# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### FX as a source of additional revenues

Many airlines already offer Multi-Currency Pricing (MCP) and / or Dynamic Currency Conversion (DCC) for their direct sales. These solutions allow passengers to opt to pay their card currency.

With MCP and DCC airlines can determine the FX spread to be applied to the total offer. This allows the airlines to take control and benefit from this revenue stream. It also caters for customer centricity as it leaves the choice of whether to select the MCP (or DCC) FX rate provided the airlines, or to leave the FX conversion to their card issuing bank with the passenger.

In the airline controlled offers and orders environment, a similar FX offering could be considered for indirect sales channel as well. However, when implementing such solutions, airlines should be mindful of the FX rates update frequencies and FX spreads – these must be carefully set considering a very competitive market environment.

There are many commercial banks and fintech companies offering a multitude of variations of MCP, DCC and automated hedging solutions. Ideally these solutions provide full straight through processing integration for offers and orders through automated pricing engine, FX risk management and cross-border settlement solution. Solutions could be configured to apply variable FX spreads to different sellers to create additional revenue for airlines.

It should be noted that oftentimes MCP / DCC providers are associated with certain acquirers. As such, it could be a challenge at the time of migration from one acquirer to another. Hence it may be beneficial to select MCP / DCC providers independent of acquirers.

### Future of interline partnerships

In the future offers and orders based interlining, Retailer airline may request offers in their preferred currency to match its needs and mitigate FX risks. At the same time supplier airline is free to respond to the offer request in the currency of its choice and with full flexibility of using any FX rates of its choice. Both retailer and supplier airlines will retain control of their respective offers, including offer pricing and receivable currencies. As was noted earlier, neither of the interline partners will be subject to the inflexibility of legacy currency rules and legacy distribution standards constrains. This will

allow interline partners to adopt more dynamic FX sourcing and FX management methodologies as described. It will equip them with the tools to be more efficient and more protected from FX risk exposures and undesired arbitrage opportunities. Irrespective of the channels and the future offers and orders world, it is imperative that Treasury and Interline teams work very closely together.

### Back-office efficiency gains

Due to the time constrains FFT team did not have the opportunity to study potential offers and orders back-office efficiency gains specifically and directly linked to FX management in detail. It is, however, believed that there will be efficiency gains as offer and orders will allow for more automation in the FX management space in indirect sales channels. Similarly, move to airline retailing will allow to standardize FX management practices across multiple channels, thus also leading to possible efficiency gains. This theme may be considered for further research and recommendations in the future Think Tanks.

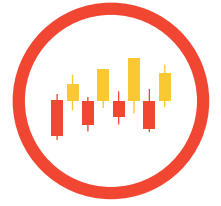
### Legacy standards considerations

It should be noted that there are certain known deficiencies with the legacy currency rules and exchange rates sourcing. Whilst these deficiencies are typically inherent to the established legacy distribution, some may be marginally mitigated through updates and changes to the current IATA passenger distribution standards. These standards generally fall into the remit of the IATA Passenger Standard Conference (PSC), its standards boards and working groups.

It is understood that the industry will continue to operate in a hybrid mode until 100% offers and orders is achieved. Hence FTT participants have identified some recommendations and changes to the IATA standards that can help improve the legacy situation before. These proposed changes are outside the scope of this paper and will be dealt with through proposal submittals to the agenda of the IATA PSC and other governance bodies as may be applicable.

# 2021 New Ideas

## 2. Foreign currency exchange opportunities in the world of 100% offers and orders



### Benefits

Automating the management of currencies will bring different benefits from risk, cost, and revenue growth perspectives. In summary, some of these benefits are:

- Improved management of FX risk exposure.
- Minimized 3rd party arbitrage opportunities.
- Increased sales potential by gaining a competitive edge by buying and selling in the currency of your customers and suppliers with minimized FX risk exposure.
- Implement new revenue streams in indirect channels, such as multi-currency pricing, dynamic currency conversation, etc.
- Reduce operational risks and increase traceability of executed trades.
- Gain deep understanding of hedging results and FX risk management KPIs.
- Reduce the workload of the treasury team on low-value tasks as well overall back-office efficiencies gain.

### Next steps

- Airlines consider the application of the recommendations in their pricing strategies, with their Finance / Treasury and Commercial departments working together.
- In consultation with the Industry Financial and Distribution Advisory Councils, IATA assesses the opportunity of implementing industry actions in this domain.
- Consider developing some of the topics address in this paper further and as a part of future Think Tank activities.

# Appendix 1

## Illustration 1: Revenue loss due to currency exchange rate volatility

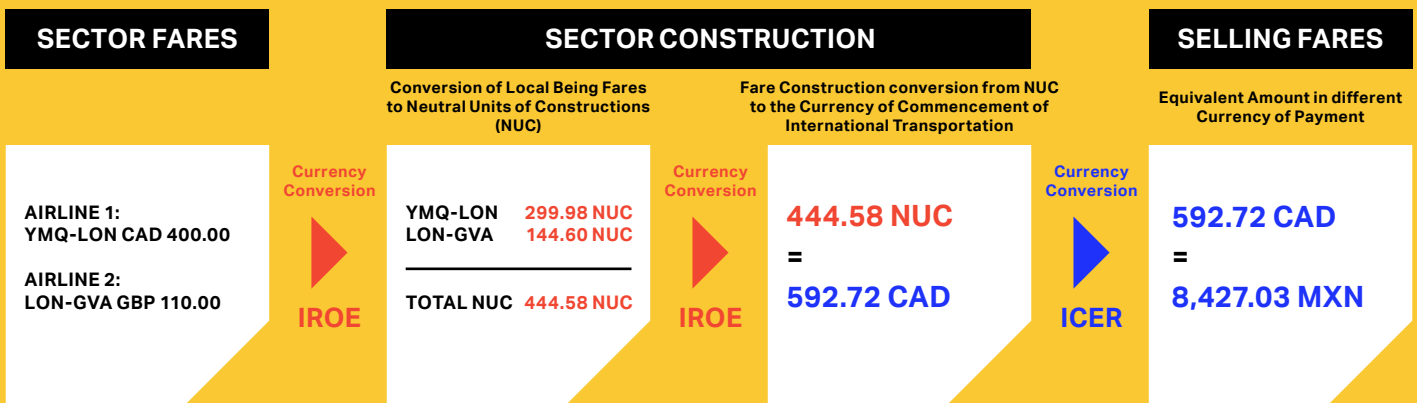
### Fare construction for Montreal – Geneva journey (via London)

**Airline 1** operates international flights out of Canada. It has an interline agreement with **Airline 2** to allow customers onward travel to other destinations in continental Europe. A customer wishes to travel on a journey between Canada and Geneva and Airline 1 has distributed a **CAD** fare between two international points (Montreal – London) that can be combined with a **GBP** fare offered by Airline 2 from onward travel to (London – Geneva).

As the first international journey commences from Canada, a total price for the ticket is nominated in **CAD** (592.70). However, if the fares are distributed to other markets, for example Mexico, the same CAD fare can be paid in **MXN**, converted using IATA Industry Rates (ICER). ICER & IROE<sup>5</sup> rates are delayed FX rates, so if a currency fluctuates regularly in value, it creates an opportunity for participants in the distribution chain to compare the fare components to real time FX market rates and pay in the cheapest currency, in this case MXN (rate CADMXN 14.2180).

If, between the time of setting the rate and the time of ticket issuance, MXN depreciates, say, 2% (CADMXN 14.50), the Seller only needs to sell CAD 581.70 to by the MXN settlement amount of 8,427MXN, earning them an additional marginal gain of up to 2% (i.e., 11 CAD per ticket).

Figure A: Fare construction timeline



<sup>5</sup> IATA Consolidated Exchange Rates (ICER) are daily updates of exchange rates used to convert fares, taxes, and fees to alternate currencies of payment. IATA Rates of Exchange (IROE) provides monthly updates of IATA currency rates of exchange used by the industry for fare / rate construction. IROE rates are based on the average of the ICER rates over five banking days ending on the 10th of each month.

# Appendix 1

## Illustration 2: Legacy distribution and airline retailing (offers and orders)

### Legacy distribution and airline retailing (NDC and offers and orders)<sup>6</sup>

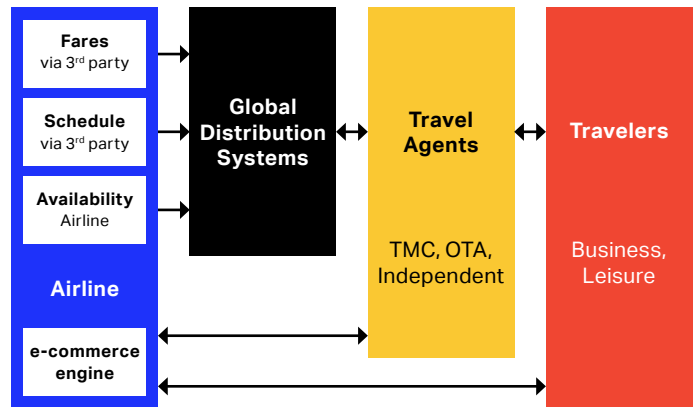
NDC (New Distribution Capability) is a travel industry-supported program (NDC Program) launched by IATA for the development and market adoption of a new, XML-based data transmission standard (NDC Standard). The NDC Standard enhances the capability of communications between airlines and travel agents and is open to any third party, intermediary, IT provider or non-IATA member, to implement and use.

NDC enables the travel industry to transform the way air products are retailed to corporations, leisure, and business travelers, by addressing the industry’s current distribution limitations: product differentiation and time-to-market, access to full and rich air content and finally, transparent shopping experience.

**Figure A: Legacy distribution**

**Shopping:** The GDS creates the Offer, getting fares, availability, business rules from the airline or 3rd parties (ATPCO).

**Booking:** the GDS creates the PNR which belongs to the travel agent, the airline only owning a (partial) copy. The airline is unaware of the end customer who is shopping until the transaction has been completed. The ticket and any miscellaneous documents are issued from the GDS.

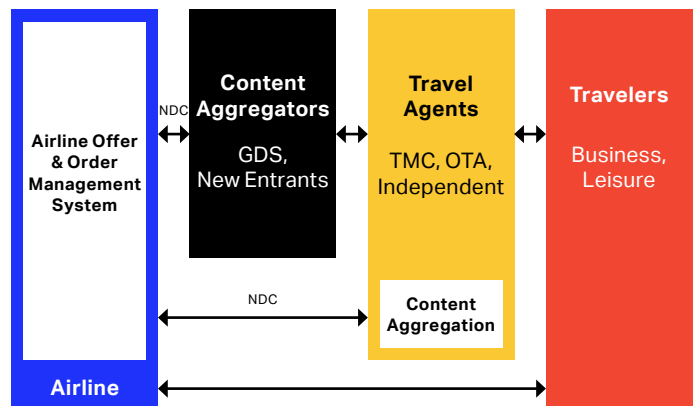


**Figure B: Airline retailing (NDC and offers and orders) distribution**

Airlines is responsible for and controls offer and order creation. The aggregator transmits the information (i.e., the request and later the Offer) and is not a part of the Offer creation.

The concept of aggregation is a key component to NDC-based distribution. It has three core functions:

- Determine which airlines to ask when receiving shopping requests from travel agents.
- Forward shopping and other requests to the relevant airlines.
- Consolidate the Offer responses from airlines and present results to travel agents.



<sup>6</sup> Source: [IATA Distribution with Offers & Orders \(New Distribution Capability\)](#) and [Get Started with NDC guide](#) published by IATA in 2019.

# Appendix 1

## Offers and orders end state vision <sup>7</sup>

Figure A: Offers and orders end state vision

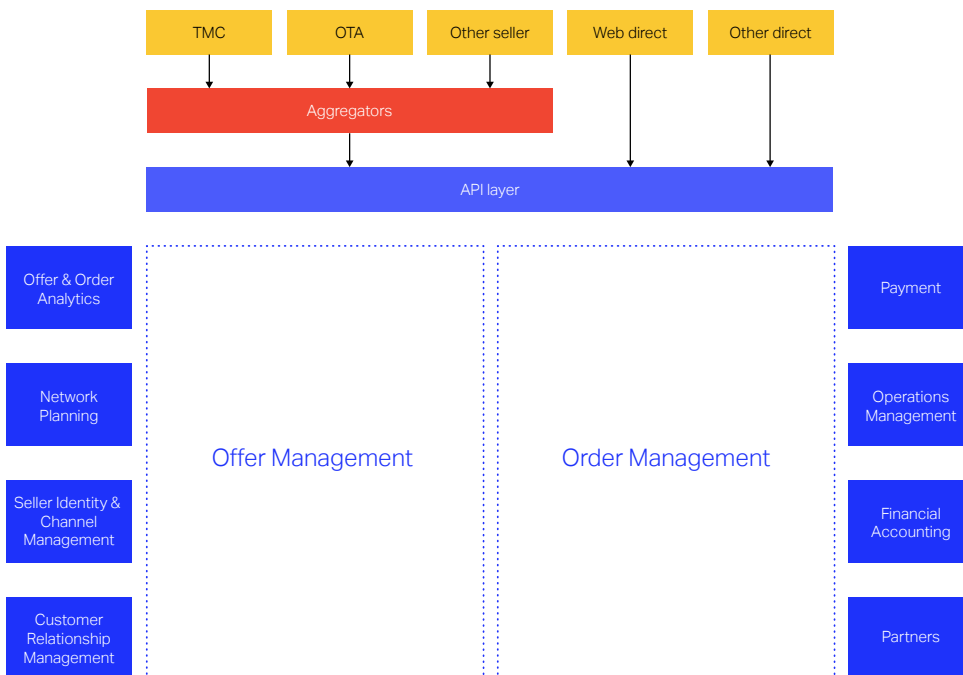
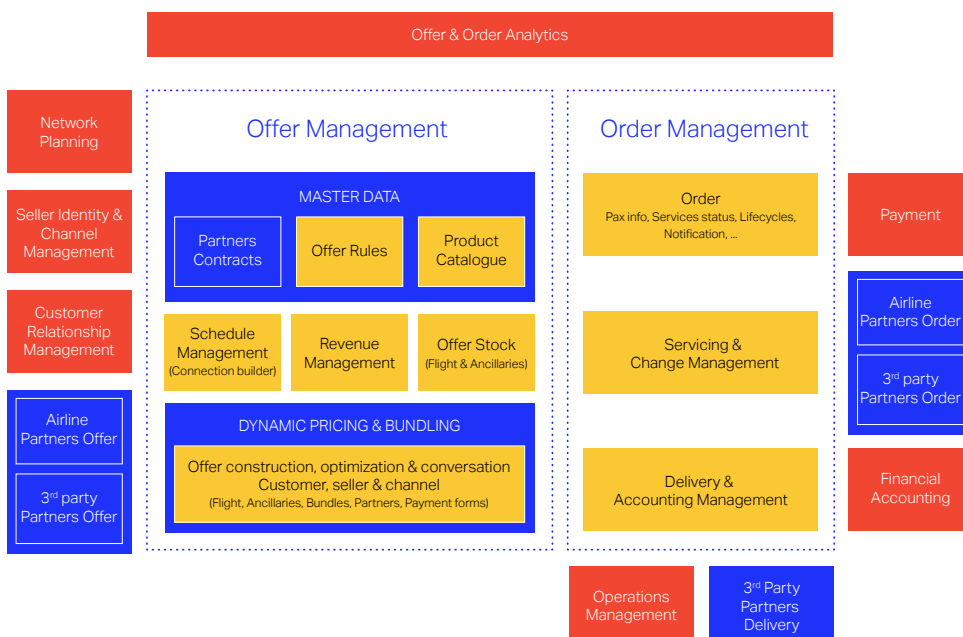


Figure B: Key functionalities of the offers and orders management



<sup>7</sup> Source and full details: [Airline Retailing – An Industry Vision for Offers and Orders](#), published by IATA in October 2021.



# Conclusion

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The Financial Think Tank was initiated in 2021 and it was obvious to see that there is a lot of room for innovation in this space. The team was eager to brainstorm on new ideas – especially in the huge space of payments and currency and work on these ideas to help move the industry forward.

This White Paper will be published along-side a video, where the teams will elaborate on the ideas with the aim to instigate conversation in the financial community.

# Partnering for Success

A special thank you to the 2021 members.

## Airlines



## Partners



