



# The industry transformation to dynamic offering

Sébastien Touraine<sup>1</sup>

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## Abstract

In 2020, the airlines' mechanism to create and manage offers continues to rely on traditional fares and ancillaries filing with booking class inventory control. Airlines are slowly maturing to move away from these practices by leveraging the IATA New Distribution Capability standard which enables them to be in control of the offer creation and the ONE Order standard which allows the fulfilment of a much wider variety of retail-oriented products. This article explores various methods of product & price determination applied in the airline business. Then, the author shares views observed across the industry. Finally, the document summarizes the industry business drivers which will move Pricing and Revenue Management practices towards a world of offer optimization.

**Keywords** Airlines · New distribution capability · Continuous pricing · Dynamic bundling

## Offer determination in the airline industry

### Background

As a perishable asset, each individual airline's seats require meticulous inventory control. The airline industry pioneered Pricing and Revenue Management techniques as early as the 1980s. However, within our industry, the amount that a customer pays for a flight is still calculated by applying predetermined static price points to limited allocations of inventory using 26 booking classes. What was innovative and new in the 1980s has long been overtaken by the digital revolution.

Historically, the airline product was an all-inclusive service for the passenger (the ticket included the flight together with meal, bag, etc...). It is not before the rise of Low-Cost Carriers in the late 90's that most airlines started to strip out some product features and sell them as a la carte: this was the beginning of retailing in the aviation industry.

### IATA dynamic offer maturity matrix

Today, airlines want to provide more relevant and personalized bundled products: Fig. 1 describes the multiple ways airlines can create offers in the industry.

The matrix should not be viewed as a single capability or maturity level for airlines. It is important to note that airlines may fall into different categories at any given time, as the capabilities of the various distribution channels or markets may differ, thus forcing the airline to support one set of rules in one channel, and a different set in another.

### Pricing methods in offer determination

The *x*-axis of the matrix defines the various methods for price determination of an offer as follows:

Pre-defined price points with dynamic availability	Utilizing filed fares and revenue management availability by booking class
Pre-defined price points with dynamic price adjustments	Utilizing filed fares and revenue management availability by booking class. Then adjusting the price using mark-up or mark-down, applying science optimization algorithms and shopping context
Dynamic price determination	Utilizing science-based algorithms based on shopping context to determine a real-time calculated offer price without the need for pre-filed fares and rules

✉ Sébastien Touraine  
TouraineS@iata.org

<sup>1</sup> Dynamic Offers – IATA, Geneva, Switzerland



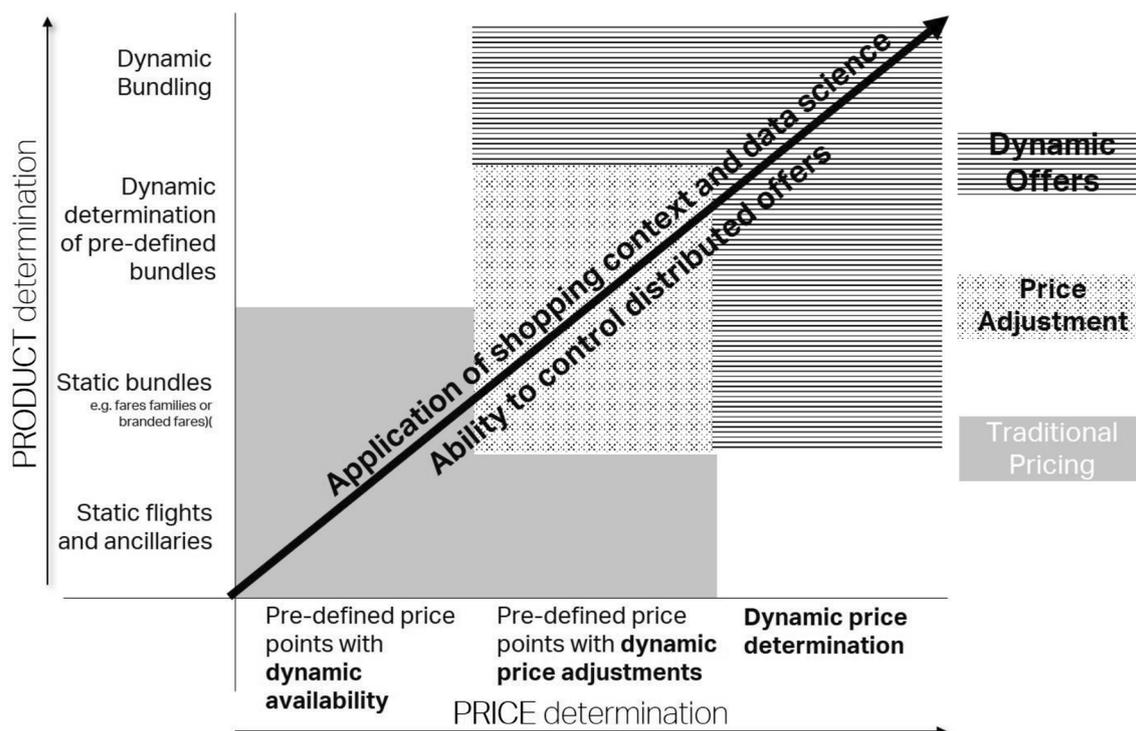


Fig. 1 IATA dynamic offer maturity matrix

## Product bundling methods in offer determination

The y-axis of the matrix defines the methods for product determination and the contents of an offer as follows:

Static flights and ancillaries	Describes the practice of offering individual items, or multiple items however in sequence, with no bundling of products with services
Static bundles	Describes the practice of bundling a limited set of products and services into a pre-defined set of bundles (ex. fares families and branded fares)
Dynamic determination of pre-defined bundles	Describes the practice of creating a larger set of bundles, however dynamically determining—based on shopping context and information in the request or channel used—which bundles products attributes to present as the offer
Dynamic bundling	Based on the full information and the context of the shopping request, the airline will, in real-time, determine the product and services to be offered to the requestor in a fully dynamic manner

## Industry trends

### Overcoming industry distribution constraints to move to continuous pricing

Moving towards the top and right quadrants of the IATA Dynamic Offer Maturity Matrix requires the airline's ability to control the complete offer both in terms of product creation and price generation. One of the fundamental concepts of the IATA New Distribution Capability (NDC) standard is that all shopping requests made by intermediaries—mainly travel agencies—are sent to the airline in real-time for evaluation. This change of workflow is a fundamental shift in the airline industry compared to methods used today by pricing & revenue management that distribute separately pre-defined fares and seat inventory availability to traditional pricing engines.



This transformation cannot be accomplished overnight as today's practices are entrenched in the entire distribution, fulfilment and accounting industry ecosystem. For the past 5 years, airlines have been re-using their current pricing & revenue management assets and various ways to increase the number of price points have been applied.

One method is to file discount codes (as % or fix amount) of a pre-filed fare. Then for each NDC shopping requests, the airline calculates the gap between the price quoted based on a traditional pricing engine and the optimal price generated by its Offer/Revenue Management system (i.e. bid price adjusted by any business rules, shopping context or willingness to pay algorithm). By applying the closest discount to this gap, airlines have more price granularity to match the optimal price they wish to sell to their customer. This dynamic price adjustment method clearly highlights the duplication of processes and business rules in this workflow: (i) pricing sets pre-defined prices and rules by booking class (ii) revenue management optimizes the availability of prices in this booking class (iii) the discount code overrides price quoted. The benefit is to preserve the current industry practices to fulfill, report and account this offer via traditional E-Ticket standard process.

Another method consists of injecting the optimal/continuous price directly in the shopping engine that overrides the traditional price quoted by matching applicable fares and availability. In this case, airlines don't rely on a reference filed fare but still need to link the offered price to a booking class and an internal flag to support fulfilment with the E-Ticket standard process. The key challenge here is to find a workaround to enable automatization of downstream processes such as auditing, servicing and accounting.

Some airlines—typically Low-Cost Carriers—that don't file fares, distribute via API and fulfill without E-Tickets are more agile in pricing determination methods. Traditional airlines can do so (e.g. group pricing) and are implementing continuous pricing beyond the price adjustment methods on their website or NDC channel where they control the creation of their offers. The catalyst to this transformation is the new workflow driven by NDC and the fulfilment simplification made possible by the ONE Order standard which overcomes the E-Ticket limitations.

### **From ancillaries to dynamic bundling and conversational commerce**

Over the past 15 years, airlines have added ancillaries to improve products and services to customers. Airlines started by unbundling the traditional fare structure and then progressively added new products and services to their offers (e.g. fares family, branded fares). Typically, these products and services are defined quite statically, and the price varies

using traditional pricing engine. Some airlines have taken this a step further in dynamically modifying the prices of these ancillaries, based on demand, availability and the customer's willingness to pay (e.g. paid seat assignment).

Dynamic bundling is a common practice in many industries, especially customer retail, where offers are created dynamically based on who is asking and in which context. In the airline industry, there is already a concept of dynamic packaging and airlines wish to apply merchandising techniques to increase offer conversion, but the generation of those products is not real-time. The next step is real-time interaction between the airlines and its customers into conversational commerce (digital assistant, commercial chatbot, etc...). This technic enables customers to pick and choose its own bundles or transmit additional contextualized information to the airlines. The more data are shared between the parties the better the offers can be personalized: it requires trust of the customer with the airline that can now stay in contact through the entire journey.

Combining infinite price points with real-time dynamic bundling on a larger scale is not yet mainstream but, in the future, fare filing will be replaced by a dynamically priced product catalog that will be directly integrated with a continuous pricing engine. This evolution can only be feasible outside of legacy airlines infrastructure and the industry still has to figure out the transition to the end state.

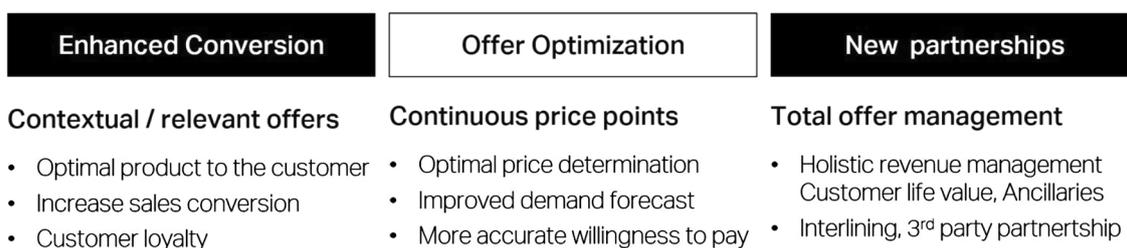
### **COVID-19: will it accelerate transformation in airline pricing and revenue management?**

At time of writing, no one knows how long this unprecedented crisis will last for the airline industry. Due to COVID-19, historical data is irrelevant, customer behaviors have changed, and the market is very fluid with constantly evolving government travel restrictions. All the key ingredients to measure demand have been radically disrupted and airlines have lost their bearings when it comes to optimizing their offers.

Given this unpredictability, many airlines have waived reservation change fees in their fare rules. In essence, all the offers thus become fully flexible and consequently the traditional pricing segmentation (non-refundable vs. changeable offer) is removed (due to COVID-19). What will happen when demand comes back? Will airlines keep this or develop "changeability as a service" as a new ancillary and price it accordingly? Similarly, the typical advance purchase fare restriction rule has been removed as the booking time window is currently much shorter. Historically, this fare rule was simply invented as a mechanical way to adjust prices based on differences in willingness-to-pay, but without a booking class-based system this rule would have never existed.

With these two examples and the lack of relevant historical data, COVID-19 may be a chance to reset airline pricing





**Fig. 2** Overview of the industry benefits of dynamic offers

& revenue management practices even if the core principles are not challenged. In any case, airlines have an opportunity to modernize their antiquated business rules and processes set by users over time that add cost and inefficiencies. As many airlines are downsizing their route network, such modernization may require major business simplification and some radical organization change. Current pricing & revenue management overlapping systems and processes are likely going to be replaced by modern retail-oriented offer management systems in the next decade. The degree and timing of such upgrades will vary by airline based on their individual commercial decisions.

## Business drivers toward dynamic offering

Airlines have clear aspirations for more dynamic methods of offer creation. In parallel, all vendors are engaged—at different level—in moving into a more dynamic offers world. Airlines will have different reasons, justifications and objectives in establishing their transition to Dynamic Offers. Some will focus on conversion, others on offer optimization, and others still on partnerships as presented in Fig. 2.

In conclusion—with airline retailing transformation made possible by the NDC and ONE Order standards—airlines are becoming more agile to create, control and optimize their offers for the benefit of their customers. By having the ability to offer more relevant and targeted products and services to their customers, airline competitiveness will increase; and in turn this could lead to an increase in conversion rates. A well targeted offer, combined with a higher conversion, will

drive customer loyalty. Continuous pricing is a further enabler of offer optimization, as the airline can greatly refine the offered price compared to today's static and limited options through legacy fare filing. While this increases the number of price points to infinite, it also allows near perfect matching of supply and demand and removes inefficiencies. Finally, new ways of creating offers will bring new partnership opportunities for airlines (e.g. interlining with low-cost airlines, ground transportation service providers such as rail, taxis or other services), thus helping the airline expand its “offer portfolio” with door-to-door services to its customers as an example.

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**Sébastien Touraine** drives industry transformation toward airlines retailing and leads dynamic offers activities at IATA. He has prior experience in airline consulting and in Revenue Management and Pricing from Swiss International Airline. Sébastien holds a M. Sc. in Aeronautical Engineering from ENAC, Toulouse, France.

