Abstract

Air travel has become more accessible to travelers across the world. Today, we have more passengers flying than ever before and better technologies to service passengers and enhance their journey. This growing focus on the passenger experience has given rise to appealing, personalized amenities in-flight and at the airport. A rich retailing experience, powered by International Air Transport Association’s (IATA) latest standard, will engage and inspire passengers and deliver real-time, relevant offers from both direct and indirect channels.
Customers Call the Shots

An International Air Transport Association forecast pegs the number of air travelers across the globe at a whopping 7.3 billion by 2034, at an annual growth rate of 4.1%. The predicted growth is phenomenal and compelling enough for airlines to pull out all stops to grab maximum market share. This can only be achieved with personalized and seamless interaction with customers. Given that about 60% of air tickets are sold indirectly through travel agents using Global Distribution Systems (GDS), ensuring an enhanced customer experience poses a challenge.

Customers are offered price-based comparison irrespective of their relationship with the airline, which makes the whole shopping process transactional and impersonal. The passenger remains unknown to airlines, unless the ticket is purchased directly from the airline website. Airlines are able to offer personalized and merchandizing services only to their direct customers as they have access to their data including traveler history, loyalty status, travel preferences, and other characteristics.

This whitepaper highlights IATA’s New Distribution Capability standard (NDC)—aimed at addressing the complexity of contemporary air travel—and how it is set to transform the airline travel experience as we have known it. It discusses how NDC holds greater opportunities for Full Service Carrier (FSC), LCC (Low Cost Carrier) airlines, as well as travel agencies. Additional revenue opportunities, higher customer satisfaction through choices, brand affinity, and enhanced service are just the tip of the iceberg when it comes to advantages offered by NDC.

NDC: Transforming the Airline-Traveler Equation

IATA’s proposed NDC initiative aims at ringing in a paradigm shift in the airline-traveler relationship. It is an innovative approach to airline products and services distribution. With a multitude of benefits envisaged for all players involved, a particular emphasis of NDC is its ability to help third-party airline distribution channels. Retail and online travel agencies, travel management companies (TMCs), and metasearch (price comparison) engines will be able to receive more detailed content from airlines. In turn, the indirect channels can offer their customers richer, more engaging digital flight shopping experiences.

As an XML-based data transmission standard, it will enable communication between airlines and travel agents giving them easy and transparent access to products, services and information available on airline websites.

IATA is currently working with leading airlines, GDS providers, and travel agencies to finalize standards and business requirements for NDC. Several pilot projects are also underway to verify requirements and feasibility of NDC. The new interface, developed in collaboration with airlines and their partners, will enable identification and engagement of customers with personalized offerings including fare alternatives, customized shopping, ancillaries such as priority boarding, onboard Wi-Fi, access to airport lounges and other onboard amenities, and graphics such as pictures or seat maps.

Full service carriers who have their Passenger Service System (PSS) hosted on third-party systems of GDS and other product companies, and carriers having in-house legacy systems are likely to be the prime contenders for NDC. These systems work in a co-hosted ecosystem model or on platforms where change is expensive and time consuming. GDS manages exceptionally high loads of transactions, which if moved to airlines, would call for extensive performance load factor delivery. This means that airlines would have to invest more in IT infrastructure.
Given this scenario, conventional and proposed distribution models are likely to co-exist for the next five to seven years. This will call for maintenance of IT processes that support both the systems during the transition period. NDC’s role as an enabler can facilitate greater passenger engagement with flight shopping through third parties through a faster time to market with airline offers and a richer retailing experience.

From the traditional Low Cost Carrier (LCC) perspective, NDC opens up a plethora of opportunities in terms of interlining with other carriers and exposing a single standard for data exchange with Online Travel Agencies (OTA). This will result in greater adoption by the industry and thereby larger revenue opportunities for LCCs.

**Improved Standardization and Efficiency Set to Take-off**

**Unbundling the Product:** NDC will bring in comparison capability to the forefront and provide airlines the ability to distribute their services using rich content (ancillaries and add-ons) in a standardized way. Customer flexibility and unbundling traditional flight seats will fuel the growth of ancillary revenues associated with every seat purchase. Traditional carriers will have to create an ancillary service catalog, and distribute it based on point-of-sale and customer profile. End customers will be able to search and compare offers based on attributes and features such as baggage allowance, seat pitch, in-flight entertainment options, in-flight Wi-Fi access, and free intra-terminal transport.

**Interlining:** Interline routing mechanism, which has traditionally been maintained in GDS systems, will need to be implemented again for NDC interlining. Airlines need routing options based on their code share and interline agreements to create and manage bookings on partner’s passenger service systems (PSS), in addition to their own. The Offer Responsible Airlines (ORA) PSS will be impacted by the change. Further, interline ticketing, fulfilment and voluntary-involuntary booking management-related considerations need to be factored in. For airlines to provide effective and efficient customer service, interline airline fares, pricing rules and offers also need to be available along with ticketing.
Revenue Accounting and Integrity: GDSs provide the Billing and Settlement Plan (BSP) and revenue integrity checks at the time of booking, booking changes and fulfilment. With NDC, partial cancellations will have to be managed outside the GDS. Settlement processing and reporting will in turn impact the way processes and systems perform them.

Booking Changes: Voluntary changes, involuntary changes, and cancellation processes will have to be managed by the airline PSS for all bookings involving air and non-air booking components. Airlines will also need to manage the impact of these offer conditions on bookings, and account of change fees using EMDs and notifications to agencies.

NDC Airline Profile: Putting forth NDC-enabled offers will call for setting of complex airline profile rules. While some airlines might want to simplify rules by having broader parameters, others may want to manage profiles at a granular level to receive optimum requests from aggregator systems.

Non-air Product Reservation and Super PNRS: Currently, agencies create airline PNRS and manage non-air related bookings as passive segments in the GDS PNRS. With NDC, airlines will be able to provide PNRS for air segments. It may not be feasible to manage the complete itinerary in airline PNRS, depending on the support provided by the airline.

Agencies will continue to create PNRS in their aggregator systems in order to consolidate all air and non-air components. However, what was earlier a primary PNR, will now just be a copy of the airline PNR. This may have an additional impact on the Super PNR management process. Aggregators will hold additional responsibility of synchronizing Super PNR with the ticketing system of the airlines.

Electronic Miscellaneous Document (EMD): ORA will be responsible for issuing EMDs on behalf of Participating Offer Airline (POA) for the services offered by them. This will be possible only when subscription services and ancillary services are standardized across airlines to support interlining.
Caching, Message Security and Co-existence of Heterogeneous Models: With NDC, caching by GDCs may not be applicable as ‘offers’ will be personalized based on the traveler’s profile. This calls for judicious implementation of quality caching by the airline PSS. Secondly, the original service message (e.g., schedule change message by an interline airline in a booking) should not be changed/altered by any entity in the distribution chain (ORA, aggregator, sub aggregator, agent, customer). Thirdly, NDC will be implemented by selective agencies, and a subset of airlines on select routes and destinations. This means the GDC and NDC will co-exist for some time. Two sets of IT infrastructure will have to be managed at the same time. However, the ROI derived from NDC sales will support the business case.

Challenges to NDC Implementation and Critical Success Factors

Though travel solution providers have been successful in creating some interest amongst airline marketing and sales managers, none of the solutions seems to have been developed with the overall perception of an agency distribution. Airlines are finding it increasingly difficult to realize true personalization and customer understanding across various sales channels. They are faced with the imminent question of how much and how soon should they invest in NDC. Airlines are looking to harness the benefits of NDC with minimum investments and reuse of existing IT infrastructure to deliver NDC services.

Airlines that are battling with existing heterogeneous standards within their ecosystem will find it difficult to manage a new distribution standard that is based on Open Axis schemas. They will need to perform cost benefit analysis based on their business plans and its impact on their IT systems and processes. Airlines are likely to opt for limited implementation to evaluate market behavior and agency response before adopting a full scale implementation.

Key factors that need to be considered for a successful NDC implementation include:
- Clearly identified objectives of NDC
- Analysis of business benefits with respect to investment
- Maturity of PSS to deliver range of functionalities from Super PNR to offer bookings
- Availability of agile merchandizing solution to integrate with airline’s core systems
The NIIT Technologies Thought Board:
Airline Travelers to Get the Bigger, Better Deal

What are the Changes Expected from the NDC?
- Improved third-party airline distribution channels
- Detailed content from airlines for TMCs, metasearch engines
- Richer, more engaging digital flight shopping experiences
- Easy and efficient communication between airlines and travel agents
- Identification and engagement of customers with personalized offerings

How will it Improve Standardization and Efficiency for the Airline Industry?

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<tr>
<th>Improved comparison capability</th>
<th>Interline routing mechanism</th>
<th>Extended synchronization in bookings</th>
<th>Non air product reservation and super PNRs</th>
<th>Electronic Miscellaneous Document (EMD)</th>
<th>Caching, message security and co-existence of varied models</th>
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What are the Challenges to Implementing NDC on Full Scale?
- Solutions not developed with the overall perception of agency distribution
- Lack of personalization and customer understanding across sales channels
- Paucity of funds for building new infrastructure

What are the Enablers for a Successful NDC Implementation?
- Clearly identified objectives of NDC
- Analysis of business benefits with respect to investment
- Maturity of PSS to deliver range of functionalities
- Availability of agile merchandizing solution
Bringing Customer Delight to the Core of the Airline Industry

The ideal way to approach NDC adoption would be to not change existing core systems for PSS and Loyalty, but develop a merchandizing engine that provides real-time personalized offers based on customer profile. This solution should further integrate with other core systems to provide ancillary sales, revenue accounting and integrity, and EMD fulfillment. The merchandizing engine should provide flexibility to deliver seats and offers using NDC standards. NDC, in a short time, will enable airlines to achieve their business objectives for self-operated routes, without significant investments.

An open system-based solution, developed in-house for merchandizing will deliver the flexibility needed in this competitive environment. It can provide agility in customer intimacy, affinity selling, and cross selling which is vital in this evolving environment. Early adopters of NDC can achieve faster ROI and reduce the impact of implementation. Based on the outcome of this first step, NDC can later be rolled out to interline and other markets.

NDC holds greater opportunities for FSC, LCC airlines, as well as travel agencies. LCCs can be directly made NDC-compliant. Also, since they usually sell ancillaries on all routes, they can create a light airline profile entry for all their routes. What remains to be seen is how soon an airline can find a way to implement its NDC. The airline industry is also looking towards agencies to accept the change and play a leading role in this historical initiative. Additional revenue opportunities, higher customer satisfaction through choices, brand affinity, and enhanced service are just the tip of the iceberg when it comes to advantages offered by NDC.
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