



AIR COMMERCE

Perspectives on travel distribution trends and the New Distribution Capability (NDC)

“Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution.”

— Albert Einstein

Air transportation remains one of the biggest economic forces contributing nearly \$3 trillion to the global GDP and is slated to double by 2040. While air travel brings more revenue opportunities to the airlines and other travel service providers, it also increases the cost in passenger service and disruption recovery, drastically. The airline industry already runs on a thin margin- currently around 4% - and with many of the large players still in the red, they would need to adopt new cost reduction and revenue strategies to stay relevant and profitable.



Ever since the first Global Distribution System (GDS) appeared in the market, travel distribution has been a topic in airline’s profitability discussions. Besides the high percentage of transaction costs, the legacy of the GDS has been a hindrance

to offering a more complete solution to the traveler. Airlines have been long hungry for a more practical and cost-effective solution to,

- Differentiate through personalized and innovative products and services

- Send consistent messaging across channels, including intermediaries, and
- Gather valuable insights on customers and their travel choices

The Need for Next-Gen Distribution

While innovation and differentiation of products and services remain important, it is the technology of distribution and agility that is key in the new travel ecosystem. **Traditional distribution models are less flexible and slow to introduce new travel products and services:**

	Lost opportunity for airlines to build a platform for on-going customer relationship and maximize Customer Lifetime Value (CLV)
	Digital technologies and improved social learning empowering customers to demand more value from airlines
	Latency in adapting; Retailer on Wings’ strategy for variety and customized services in retail mode quickly



Many industries have moved far ahead capitalizing on the internet revolution to transform around e-commerce while airlines continued to struggle to re-imagine

their value propositions and customer engagement; until the IATA (International Air Transport Association) came to the rescue with New Distribution Capability

or the NDC Program. NDC is positioned to help airlines move away from the commoditization of their products and reinstate their brand value.

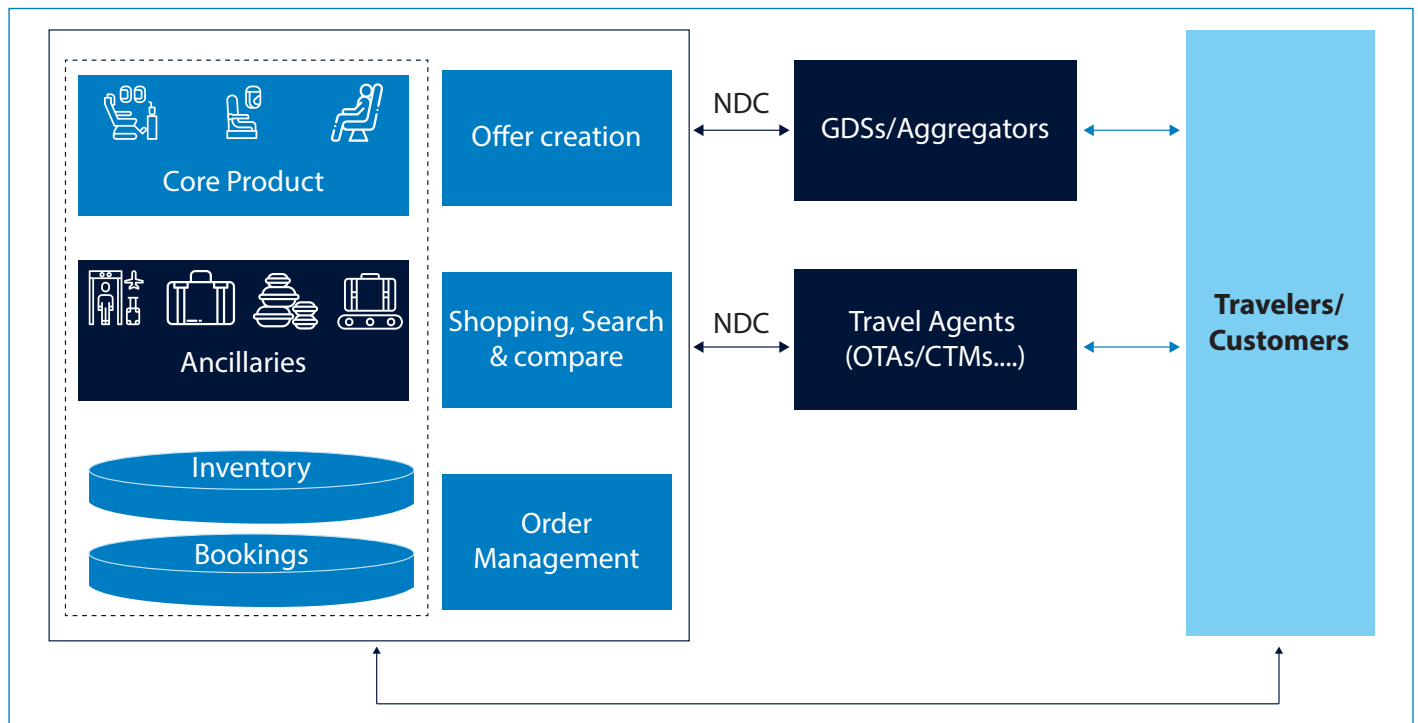
NDC- Navigating to the Next

Imagine a traveler browsing through numerous offers including value-added services, and then bundling them as she wishes –the same way we configure our Dell computer online—after which an aggregator provides exact matches based on her preferences providing the same rich content irrespective of the channel used;

GDS, OTA, aggregators, airline website or other travel search mediums. NDC offers the same future for the travel distribution arena.

“NDC (New Distribution Capability) will enable 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.” - IATA (www.iata.org)



NDC is a travel industry-supported program launched by IATA for the development and market adoption of a new, XML-based data exchange protocol that replaces prevailing EDIFACT standards by adding flexibility in providing consistent

rich content to the end customer through various travel service channels.

NDC doesn’t aim to replace existing distribution channels instead, it increases the scope of an airline’s interaction with the traveler through existing channels by

enabling it to sell a more complete travel solution. NDC is more of a growth driver focused on unbundling and bundling fares, services, and products as the airline and the end-customer wants while reducing the distribution cost.



NDC empowers players to re-imagine e-commerce in the air travel industry

A fully developed NDC compliant travel commerce platform will support

- Offers, bundles, and comparison
- Order management and dynamic pricing
- Multiple payments modes including digital, cash, and

- Marketplace features that support continuous innovation and partnerships

The advantages of NDC adoption are many:

- Airlines and channels can standardize and optimize the cost of development and maintenance

- Airlines gain better control over content creation and delivery, and traveler insights

- There is better transparency and a superior interactive shopping experience for the customer

NDC Implementation

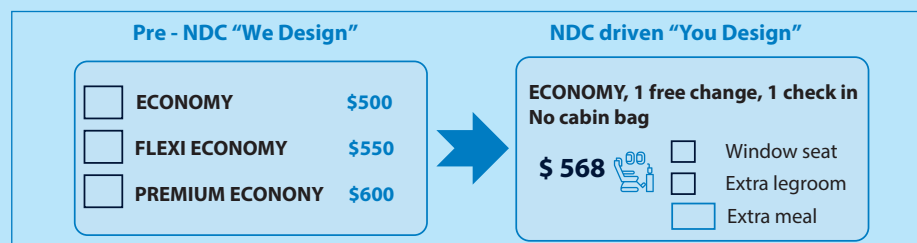
NDC implementation is still in the early stages and IATA expects 20% of the sales through NDC APIs by 2020. Understanding NDC schema and its many versions for compatibility remain a major challenge,

not to mention the overall effort and investment required for changing the airline's internal systems. But bring on board an expert technology partner, and airlines can move past these complexities

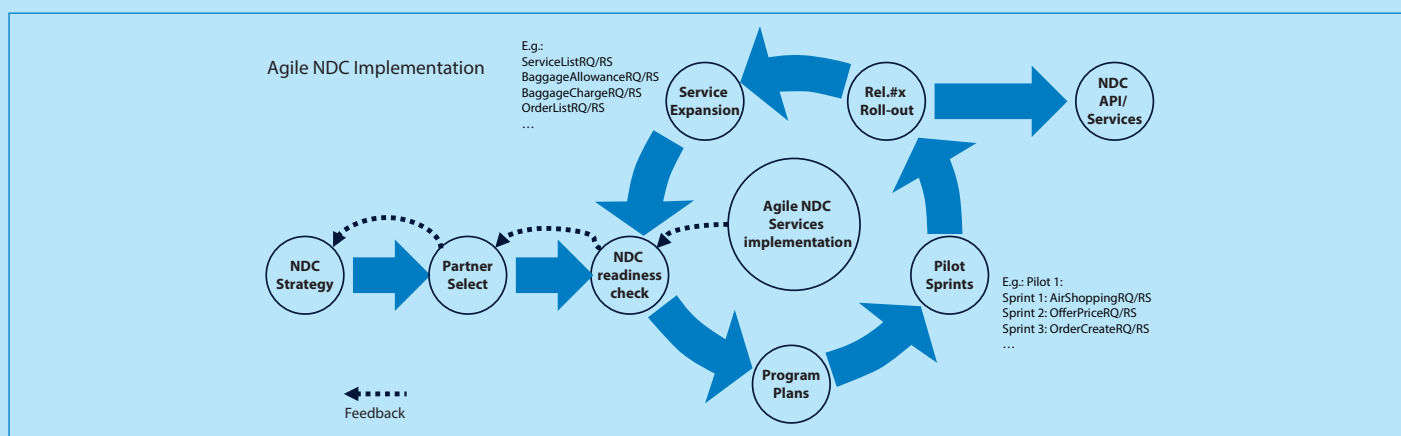
with much ease and leverage NDC to connect across NDC compliant external systems.

NDC Strategy

By aligning the NDC strategy with the commercial, product and merchandise planning, airlines can unbundle their products for extreme customization and personalization. To reach there, airlines should transform from the traditional "We design" to "You design" distribution.



The NDC transformation should be part of the strategic initiative that involves organizational investment in technology infrastructure and people, and the capability to collaborate among the many parties involved.



A partner in the NDC journey helps airlines to focus more on their core product and commercial strategy whilst helping to expedite the NDC implementation. This requires the partner to possess strong expertise in airline commerce and retailing,

API development, and mapping of the airline's internal data structure to the NDC schemas. The partner can help in refining the NDC strategy, define the potential NDC services an airline can provide and structure the products for

flexible distribution. These services can be implemented in an agile 'piloting' mode thus exposing each service incrementally based on priority, viability, and complexity.

Service Design

Since NDC is an interface and data exchange standard, airlines need to build flexible and aligned NDC services

and internal services mapping across their systems. To facilitate the right service design, they need to consider the

distribution capabilities for the three C's – Carriers (themselves and partner airlines), Customers, and Channels.

Carriers

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Differentiation	Merchandising	Dynamic Pricing	Personalization
Unique or differentiated offerings along with consistent marketing messages (including media) can help customers choose across various channels.	Utilize NDC's direct merchandising opportunities including marketing ancillary services and branded fares directly from the airlines.	Dynamic pricing potential through a radically different approach of NDC that allows prices to vary along entirely new dimensions.	Exploit personalization opportunities through highly transparent and unbundled offers where the customer can choose as they want, across the channels.

Channels

The greatest advantage of NDC is the consistent shopping experience across channels, be it direct or through OTAs, GDS, and aggregators. Everybody will see the same unbundled and additional offers from the airline in the same manner. This is extremely beneficial for the travel agents who work with GDS or other aggregating sites as they can now choose options that customers need rather than pre-defined ones.

- An important change visible is the tendency for airlines to rely less on GDSs, which means that going forward, agencies will not continue using GDSs as their sole channel for selling airline products
- "Fare families" or "Branded Fares" and ancillary services will gain prominence in travel agency offerings once they become NDC compliant

- Corporate travel management companies will be in a better position to provide more visibility for their customers, in terms of travel choices, and price comparison

While the OTAs and aggregators get familiarized with NDC, the agency market needs more awareness on NDC, its importance and value for stakeholders. Nevertheless, airlines remain an important product in travel agency portfolios through which both can reap mutual benefits.

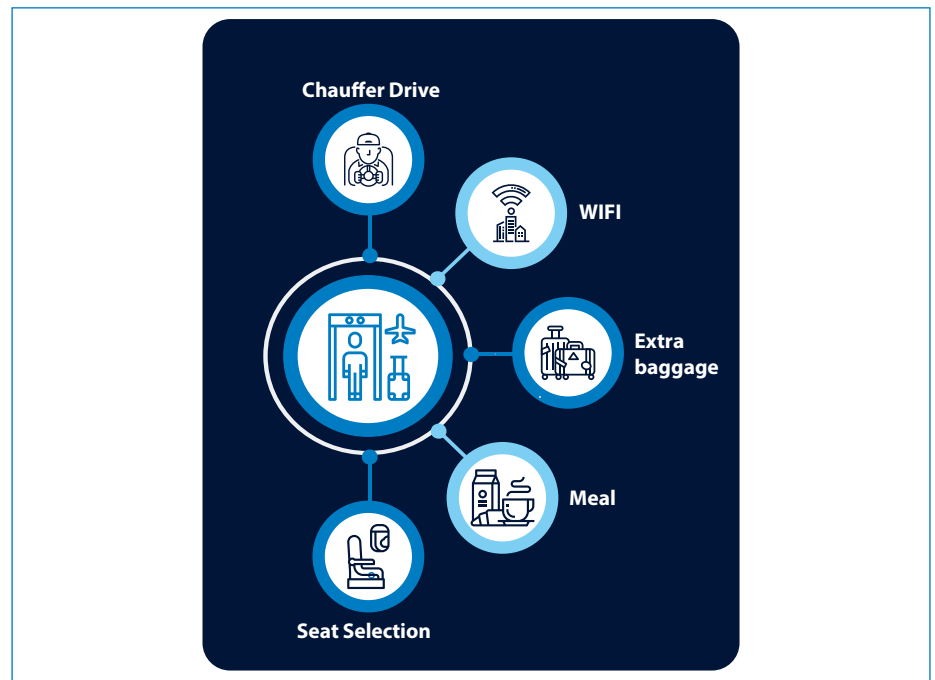


Customers

NDC standard's unbundling and transparency features help the customer to build their trip by visualizing the ancillary listing from the airlines along with additional messaging and media.

Customers can purchase ancillaries such as premium seating, baggage and priority boarding, hotel booking, etc. seamlessly in a consistent way through any channel.

For a corporate traveler using an NDC connected airline, the transaction becomes a one-step process that links the booking tool to the automated expense tool, enabling complete travel booking including ticketing in one easy transaction. The NDC schema will also help accurate and automatic travel reconciliation and claims processing.



NDC Technology

NDC has spurred new thought processes and renewed energy in the tech community, opening new ways to provide better value to all the participants in terms of revenue, customer satisfaction and improved process and cost control. One of the challenging factors in adopting NDC is the technical readiness and feasibility in bringing the fare shopping, ancillaries and booking interfaces out of current CRS (central reservation systems) and revenue systems. Considering the complexities of the IT landscape and product strategy challenges, it is advisable to start small and gradually scale up focusing on the following areas:

Business Process Definition

- Definition of NDC offerings (products and services), and interfacing requirements
- NDC compliant connectors for standard GDS, OA, OTA, TMC's and 3rd party consumers
- NDC XML schema mapping with the internal schemas and elements

NDC Service design – business and presentation

- Design the overall API based on how NDC services are structured and visible to the partners
- Design NDC compliant aggregation engines module considering connectors, rule engine, security and caching requirements

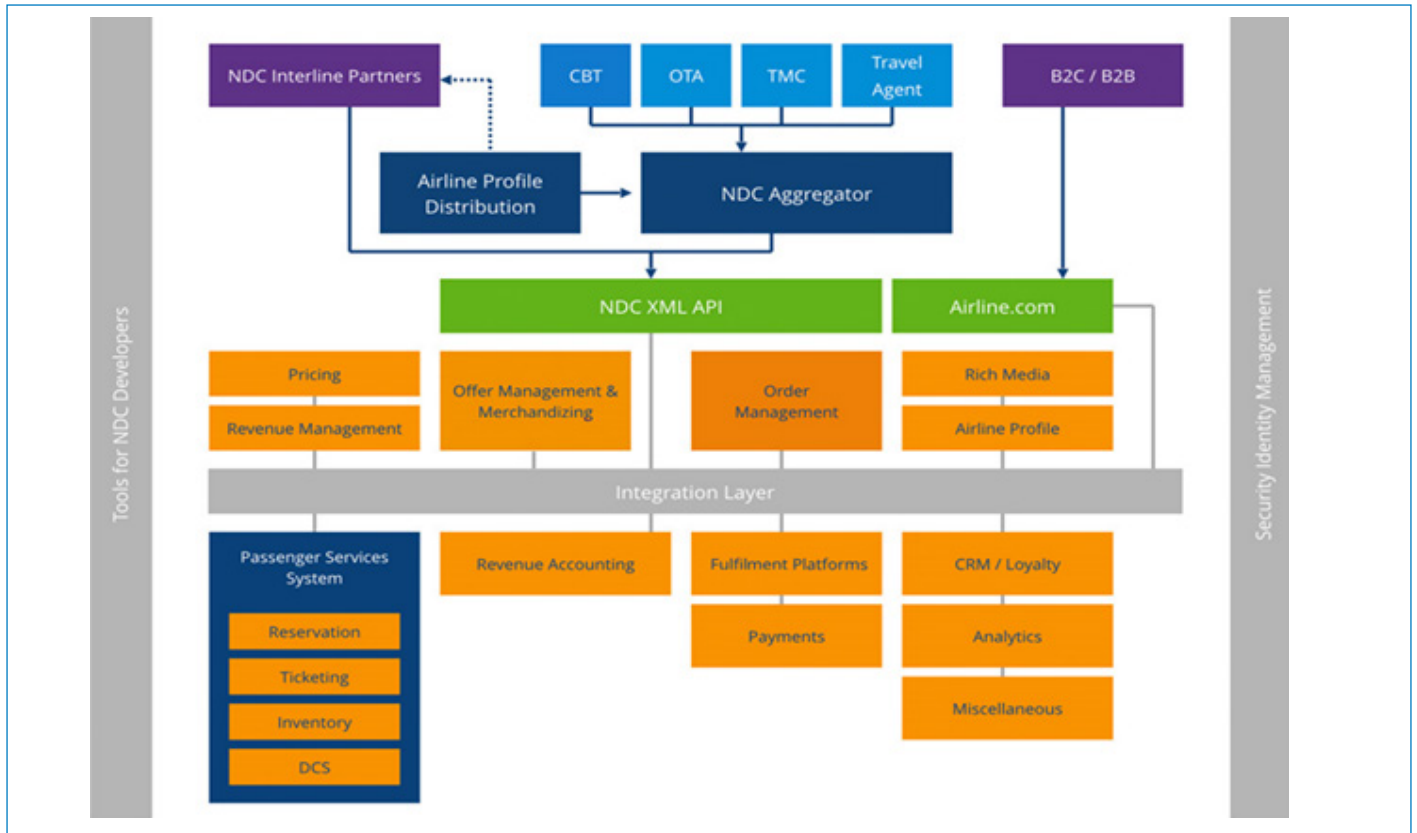
NDC Compliance Validation

- Validation of interfaces against NDC standards
- Assistance in pilot projects

NDC Compliant retail platform & API Plugins

- Solution (custom built or external products) to develop NDC compliant retail and merchandising platform for easy distribution of fares with ancillaries
- Publish NDC API plugins to enable airline retailing across all channels
- Design platform/s insight with the future IATA OneOrder requirements to stay competitive.





An airline's NDC core team should comprise technology, business and NDC SMEs that will implement a renewed distribution and data platform that, not only provides the NDC services but also bring valuable selling insights for airline's demand and revenue planning. Technology can help airlines make data-driven planning and decisions when it comes to designing offers and pricing seats and ancillary services.

Some of the challenges to implementing NDC where the partners can help the

airlines are:

- Imparting NDC awareness among participating organizations
- Building interoperability among versions of schemas
- Managing cost and time pressure of increasing "look-to-book" ratios
- Improving response time in offer creation

Technology vendors and partners have big roles to play in the NDC world; from

supporting IT departments of airlines and distributors with NDC compliant deployments to rolling out NDC capable products/ solutions.

In the near future, tech companies will strive to innovate on models and methodologies of packaging and deploying around NDC compliant solutions. Coupled with bots and AI capabilities, these services will have huge potential in taking travel distribution to the next level of customer experience.

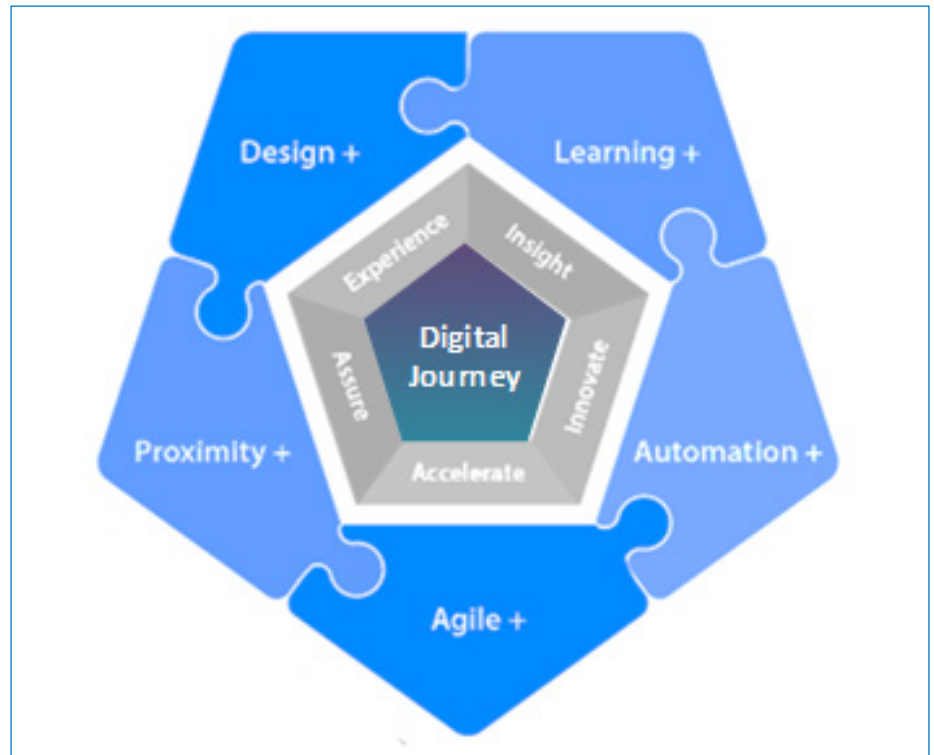


Infosys Credentials

Beginning of a new normal

Interactive digital travel shopping

As a more interactive shopping experience awaits the digital customer in the new world of distribution, Infosys gears up to help its clients navigate to their next destination; a journey in which agility and insights matter more than ever. Infosys expertise in digital business models, along with its automation and agile delivery excellence can help travel service providers accelerate their journey- be it airlines, OTAs, or aggregators. Infosys experience in NDC architecture, Service design and delivery capabilities can be leveraged to make the NDC process repeatable across clients and prospects. Its strength in system integration and technology upgrades, along with expertise in aviation, travel, and tour operations solutions will bring a win-win situation for everyone.



Data-driven innovation with Infosys NIA

With NDC promoting rich content across multi-channels, airlines will now look to leverage it to their advantage and make hyper-personalized content and messaging across channels. This will drive product innovation like never before, as several airlines, from scheduled network league to LCCs will strive to establish themselves above the aggregators and tech giants and create a unique brand experience.

Today, innovations are impractical without insights and Infosys Nia platform fills the gap in providing those insights in an NDC-enabled digital travel ecosystem.



Conclusion- Move forward and accelerate

NDC will enable airlines to generate more revenue through indirect channels by offering dynamic shopping capabilities. NDC doesn't aim to replace GDS but complements and provides an alternative in a new world of distribution where airlines have an opportunity to engage

in an interactive relationship with their customers through all channels and personalize offers to them.

NDC processes mandate better collaboration among the various parties in the travel ecosystem- airlines, GDSs,

Agents/ OTAs, and other technology solution providers. Only through such collaboration, can the service providers and customers mutually reap the benefits of product innovation, customization, and personalization

The success of future travel distribution models and NDC largely depends on

- Collaboration between airlines and distributors to continuously engage customers and provide a unified multichannel shopping experience
- Agility of airlines to respond to varying traveler needs through dynamic offer

creation and personalized, seamless products and services

- IT solution providers to build cost-effective NDC compliant solutions and services around them

NDC has already caught the attention of the majority of the airlines and the intermediaries; it is only a question of how

and when. As the NDC adoption picks up momentum, the industry must prepare for the challenge and find ways to manage the rise in transaction volumes. Collaboration among all the stakeholders- airlines, OTA's, aggregators and IT providers- is imperative to make the future of airline distribution a much more rewarding experience for everyone.

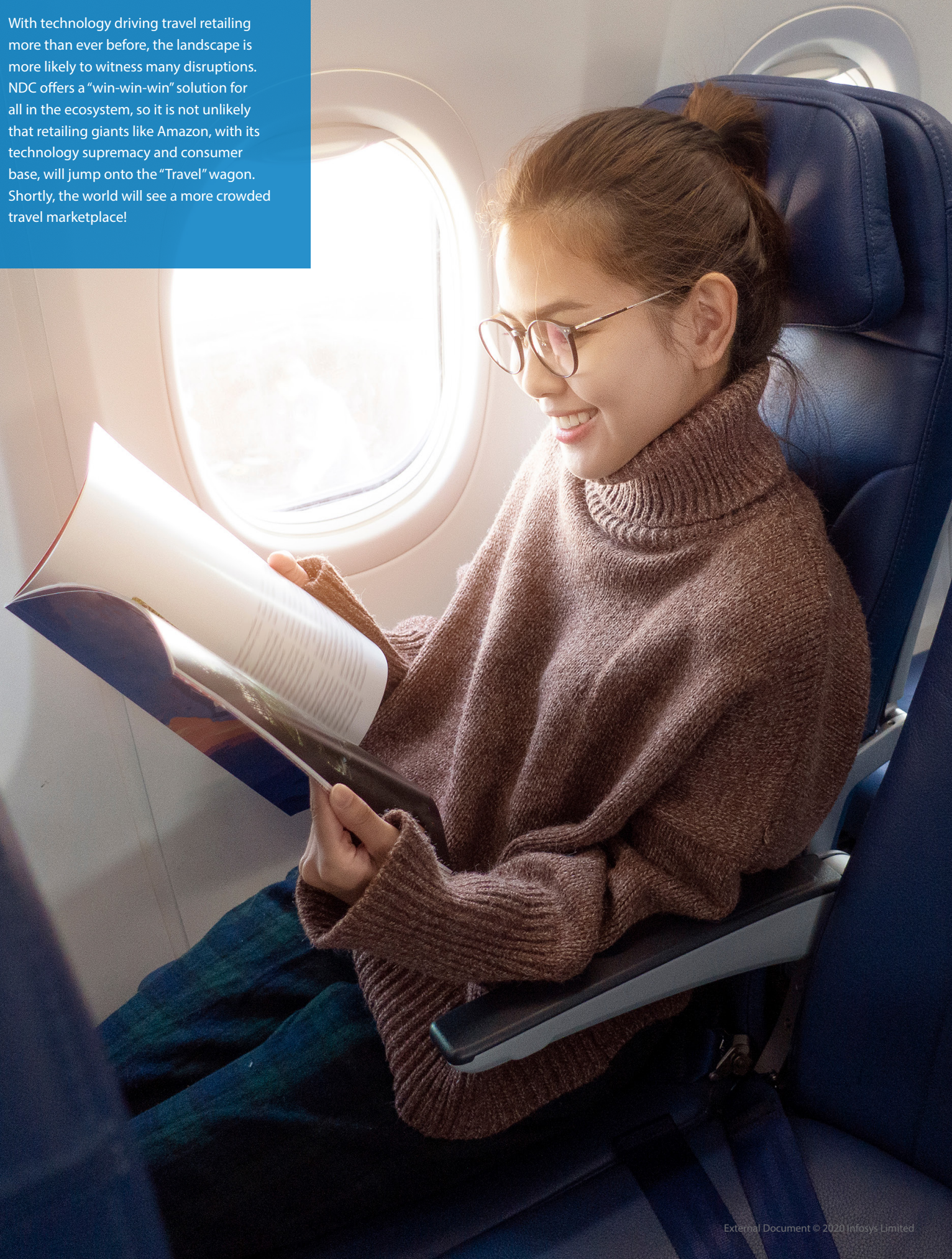
With its long-standing partnership with world leaders in the distribution, reservations, internet booking and retail systems, Infosys is currently engaged in one of the top NDC message hub development programs for a leading travel technology company, and help airlines achieve NDC compliance faster.

Even though the current distribution moved from the legacy TTY messaging to XML standards, the message hub interfacing helps airlines or travel players quickly adapt to different versions of NDC schemas with better ease. The hub acts as a translation platform between the clients XML and the NDC version, and also among

various versions of NDC messages. One of the major advantages of the system is very minimal or zero change when the schema versions get upgraded. Some of the leading airlines in Europe and Americas have already implemented this hub currently and Infosys can help to expedite your NDC journey!



With technology driving travel retailing more than ever before, the landscape is more likely to witness many disruptions. NDC offers a “win-win-win” solution for all in the ecosystem, so it is not unlikely that retailing giants like Amazon, with its technology supremacy and consumer base, will jump onto the “Travel” wagon. Shortly, the world will see a more crowded travel marketplace!



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