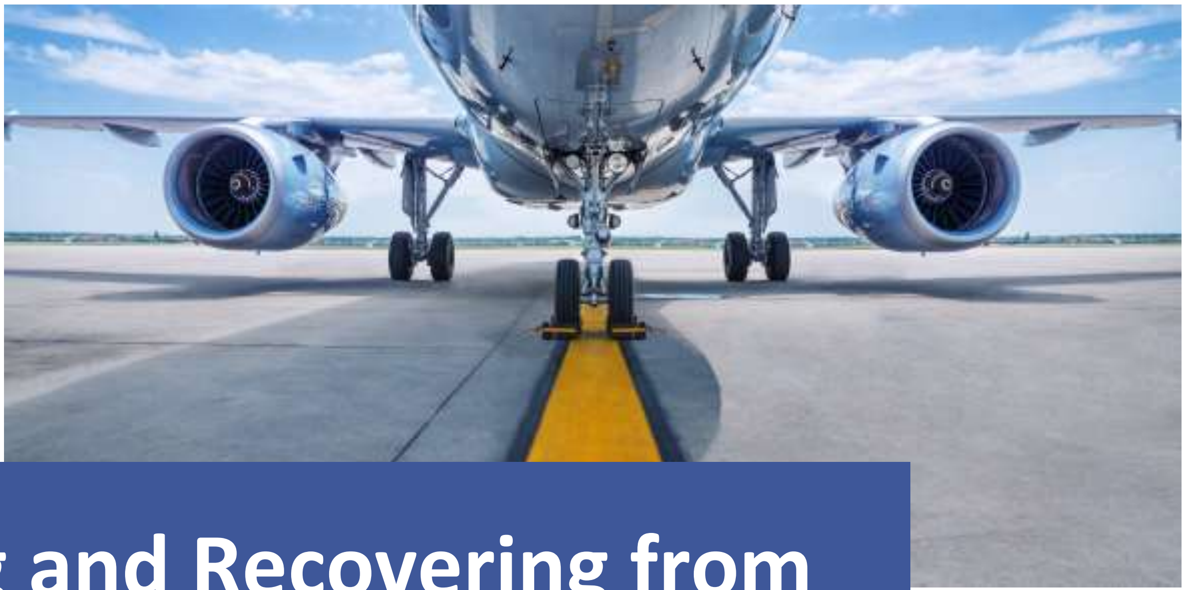
BETTER information
for better DECISIONS



Surviving and Recovering from Major Disruption -

T2RL's Outlook

August 2020

Trusted. Impartial. Expert

INTRODUCTION

This is the second edition of T2RL's analysis on the market recovery for the airline industry during and after the COVID-19 pandemic. T2RL will update this document on a quarterly basis as new information and developments become apparent.

EDITORIAL

In the summer of 2020 we are around nine months into the Covid-19 pandemic. It has caused physical and economic disruption to every country in the world and has had a particular effect on the airline and travel industries. In our first report on the pandemic and the prospects of recovery we made a number of projections of how the airline industry would fare. Three months later we have reviewed the state of the industry and assessed our forecasts. As expected we got some things right and others less so.

We predicted that domestic air travel would be the first to recover and we are seeing some signs of this. In particular domestic schedules in China are already almost back to their levels of 2019 although T2RL data show total passenger numbers are down by around 37% on the same period last year.[1] That figure includes international passengers so the recovery in domestic business is almost certainly better established but it still has a long way to go before pre-pandemic growth rates of 8% per annum might be restored. In other markets the recovery is slower. Countries in Europe that appeared to have controlled the pandemic are seeing upticks on a local or regional basis. As a result the reopening of airline services in Europe has been faltering.

The centre of the pandemic has been shifting. When we wrote in May the epicentre was still in Europe but since then it has shifted significantly westwards. The administration in the USA has been very unsuccessful in restraining its growth and neighbours to the south have also been very hard hit. Frontiers in Latin America are largely closed and most of the world has closed its borders to US citizens until the infection numbers come down, probably by an order of magnitude. Only Canada in the Americas has shown a similar success to the European countries in mitigating the effects of the virus.

In May we expected to see the start of a wave of airline failures and potentially mergers. We still expect to see this but events are moving more slowly than we expected, probably due to a combination of government support and severe cost cutting on the part of the airlines. Nevertheless in addition to those like Virgins Atlantic and Australia that have filed for bankruptcy protection, 112 airlines remain grounded around the world. In normal times we expect that any airline whose services remain suspended for more than a few months is unlikely to return to operations. The special circumstances of the pandemic mean that this period may be extended

[1] https://www.t2rl.net/airline/covid19traffic

but we still expect a majority of those airlines that are currently suspended will not return in their current form.

Looking forward from the late summer of 2020 we have made a detailed projection of whole year passenger numbers that shows 2.1 billion passengers boarded for 2020. This is 53.8% down on the 2019 number but will still not reflect the full impact of the pandemic as most airlines had a relatively normal first quarter. As we look forward, the airline industry, like many others, is at the mercy of events outside its control. The most significant of these will be the development and deployment of an effective vaccine against COVID-19. While recent news on this front has been rather optimistic the best case scenario would see a vaccine beginning to take effect some time well into 2021. Another external event that will have a significant impact is the US Presidential election. A new US administration would probably take a different approach to the pandemic in general and support for the airline industry in particular.

Much as it pains us to make this assessment we believe that the worst is yet to come for the airline industry. Government support in many countries will gradually dry up from the fourth quarter of this year. We will see severe contraction amongst airlines and their partners like travel agencies, GDSs and technology providers. The closures and mergers that we expect to see may have been deferred but economic fundamentals insist that they will still come. The next few years will continue to be a period of Darwinian selection for all segments of the industry.

RECOMMENDATIONS

The current prolonged situation emphasises the need for airlines to work towards a prudent course of action with the goal to reduce fixed overheads an immediate priority. In the area of IT this is possible in two main areas:

1. Undertaking contract renegotiation for current IT services and distribution
    - **Minimum spend clauses** - Costly lock-ins to minimum spends especially need to be looked at. Airlines should not be paying fees for services that are not being consumed.
    - **GDS fees** - With limited traffic being sold via the GDS channel now is the time to renegotiate distribution contracts, especially with regard to domestic traffic. T2RL forecasts that it will be some time before the indirect market reaches the same levels as 2019, if at all.
    - **Full content agreements** – The current situation calls for flexibility. Being tied into full content agreements that enforce fare parity across all channels can be time consuming and labour intensive. Airlines need to be able to react quickly to the market environment and full content agreements are another unnecessary burden.
2. Outsourcing otherwise internal processes to establish a more variable cost base
    - IT providers are in the best position to partner with airlines and foster a much more flexible way of operating. Through sharing the risk and reward, airlines can minimise the current impact and protect themselves for potential future market reoccurrences provided that the right business outcome contract is negotiated.

Traditional areas for airlines to reduce overheads include outsourcing the likes of servers and network architecture and moving to more cloud-based infrastructures. T2RL data show that the market for other airline specific IT components has varying levels of in-house servicing. The most prominent segment is Internet Booking Engines where currently over 38% of global web PBs are managed through in-house systems. Airlines generally prefer to keep systems in-house to maintain a high level of flexibility and control. Vendors need to work with airlines to assure that flexibility and agility of new developments and control of data are still possible through building a partnership on a solid, transparent contract.

Airlines also need to be aware of vendor risk when outsourcing key components, with many IT providers also currently under financial pressure, airlines need to be assured that vendors will still be around when demand picks up again.

With changing market needs leading to potential changes to business models, airlines will need to work with vendors that match their new objectives. Less complex business models will need a less complex IT solution.

Other specific capabilities airlines should be looking into include:

- Demand forecasting. Current revenue management solutions which have traditionally focused on using historical data to map future demand are no longer relevant in today's market. New ways of demand forecasting are now needed.
- Dynamic Scheduling. In order to manage volatile market conditions airlines need flexible tools to manage schedule building and changes.
- Reaccommodation. Tools to make it easier and cost effective for airlines to manage reaccommodation will be needed in the short to mid-term.
- Be ready to take greater advantage of direct distribution, this has effects on a number of areas within an airline's digital portfolio;
    - Self-service tools for areas such as check-in, bag drop and boarding
    - Streamlined online servicing to manage exchanges and refunds
    - Acceptance of diverse payment methods
    - General mobile capabilities to keep in touch with customers
    - Dynamic packaging as a possible area of opportunity.

Now is the time to adapt, be flexible and agile.

THE MARKET FOR AIRLINE SERVICES

Just as the events of 11 September 2001 drove major changes in the approach to security in airlines and airports we expect that the current pandemic will lead to new requirements being placed on the industry. These may include changes in physical arrangements such as screening of arriving and departing passengers and enforced social distancing in both aircraft and airports. It is also very likely that governments will require airlines to collect more data on passengers. This in turn will place a burden on travel agents and GDSs to enable such data collection at the time of booking. The requirement is likely to be complicated by the lack of consistency between governments on the nature and extent of new bio-security measures.

The Immediate Future

Following on from our initial perspective on the market in April we have come to realise that the current situation will have much longer ongoing effects than had been previously anticipated.

It is clear that domestic markets will be the first to begin recovery and we already see this happening in China and Russia, with domestic bookings at 98%[2] and 95%[3] of 2019 levels respectively. International routes are still heavily constrained by government action to close borders which is slowing down their reopening. Many governments are also imposing quarantine restrictions which are in turn curbing international travel to and from certain markets.

Where flights are operating we are seeing restrictions in capacity with certain airlines closing middle seats or even complete rows of seats. In the very short term this is making little difference as demand is still low. Most airlines and airports have announced that they require passengers and staff to wear masks onboard planes and in terminal buildings with many governments also making mask wearing mandatory on public transport and other public areas. The provision of onboard meals, refreshments and cabin baggage is being limited or suspended by many airlines. Guidelines have also been published to advise airlines on standardised cleaning and disinfection procedures. These measures will all add costs and have knock-on effects to potential ancillary earnings which will further reduce revenue opportunities.

The financial impact of the crisis on airlines is already large and will continue to grow. We expect to see airlines forced into administration, bankruptcy protection and even liquidation. T2RL data show that 20 airlines have ceased operations so far in 2020 due to the pandemic and 112 are still suspended[4]. The majority of these are based in Latin America and are affected by ongoing border

[2] https://travel.economictimes.indiatimes.com/news/aviation/international/chinas-domestic-air-travel-to-recover-fully-by-september/77866193

[3] https://www.sirena-travel.com/news-events/1003-domestic-air-traffic-volumes-close-to-recovery.html

[4] https://www.t2rl.net/airline/covid19suspended

closures. Around half plan to restart operations between August and October. T2RL suspects the rest of these airlines will have trouble restarting operations at all.

Even airlines that are financially strong will face pressure to reduce costs dramatically. The biggest opportunities for cost reduction lie in reducing headcount and retiring aircraft. The latest job cuts to be announced include Emirates and Etihad with around 9,000 staff each[5], Lufthansa has announced more than 22,000 job cuts[6], Air France 6,000[7] and United is planning to furlough over 36,000 staff[8] with many more airlines planning substantial cuts to their resources and operational costs. We also expect to see a number of airline mergers particularly amongst regional with national carriers leading to substantial reductions in capacity in specific regions.

With 50% less demand we are clearly seeing overcapacity in the market and many airlines are starting to look at reinventing their business models to suit the change in demand. Given that domestic travel is recovering ahead of international, and that the only airlines able to make money from predominantly domestic business are those that follow Low Cost Carrier (LCC) and Hybrid business models, we see all airlines edging to adopt more practices from the LCC world. Point to Point routes will be the focus at the expense of large hub and spoke networks as airlines are forced to reduce their network and global presence.

T2RL continues to believe there will be very little business travel in the next few months. Most corporate travel insurance will not provide cover while the outbreak is still categorised as a pandemic, which according to the WHO could be over 'within 2 years'[9]. Companies have a duty of care to their employees and would have significant legal exposure if they were to require them to travel. Government restrictions are also limiting corporate travel in the short term. Many SMEs and some corporates are likely to move into administration and bankruptcy as the economic shut-down drives failure of their business models and government aid comes to an end later in the year. Many corporates have already put in place 'no-travel' policies in order to save on costs. Additionally, many office staff have been working from home for quite some time and have become accustomed to readily available video conferencing, meaning a lot of travel for meetings is now deemed unessential.

Similar restrictions also apply to personal travel, however interest for leisure travel has gained a little traction throughout the summer months in the northern hemisphere as people continue to search for holiday destinations. Nevertheless, actual demand for vacation travel is still

---

[5] https://www.bbc.co.uk/news/business-53369463

[6] https://www.bbc.co.uk/news/business-53007048#:~:text=German%20airline%20Lufthansa%20has%20said,cuts%20would%20be%20in%20Germany.

[7] https://www.bbc.co.uk/news/business-53284789

[8] https://www.forbes.com/sites/sergeiklebnikov/2020/07/08/united-airlines-warns-that-it-could-layoff-36000-employees/#:~:text=United%20Airlines%20said%20on%20Wednesday,hit%2040%25%20of%20its%20staff.

[9] https://www.bbc.co.uk/news/world-53870798

comparatively low because of restrictions on destinations, quarantine regulations, nervousness of potential travellers and the financial squeeze suffered across the economy.

12-24 months

The seeds for change in this time scale are already in place and we have a high degree of confidence in our expectations. The most recent updates to our projections and analysis may be found at www.t2rl.net/airline/covid19 where we track developments including passenger numbers, traffic projections, border closures and the availability or otherwise of government support for airlines.

As government support in many countries will finally come to an end at this point the number of active airlines will diminish both through bankruptcy and liquidation and through mergers. The WHO has stated it hopes that an end to the pandemic will be formally declared during this period which will lead to a small resurgence in demand for international travel. This will be limited by specific restrictions applied by individual governments. As we are currently seeing, airlines with a higher proportion of domestic business will fare better but this only helps in geographically large and/or diverse markets such as the USA, Canada, China and those where airline service is the only practical mode of transport including island nations. Airlines whose domestic operations are primarily about feed to international routes will benefit far less.

Any uptick in personal travel will wear off from the start of 2021 as the global recession starts to hit hard and unemployment rates rise. Corporate travel will remain depressed as businesses continue to use travel-avoiding technology such as video conferencing which has now become the norm.

As we move into 2021 businesses will be starting to push through changes to their operating structures such as switching some manufacturing from global to local centres.

We also expect the move to social distancing within aircraft to stabilise in this period. Face masks will probably be mandatory for all flights as it is difficult to achieve physical changes to seats within regulatory constraints. Such changes usually require recertification and furthermore the achievement of separation standards applicable on the ground is simply impossible within the confined space of an aircraft without reducing load factors by an order of magnitude.

2-3 years

As we look to longer time scales confidence in our forecasts reduces somewhat. Once we look more than a year out it is essential that we remain alert to changes in base cases that will have impact in late 2021 and into 2022.

We expect to see fewer airlines in the market and therefore less competition. Schedules will continue to be restricted compared to pre-pandemic levels. Flight prices may start to increase as a consequence of reduced competition and increased operational costs. The surviving carriers will be looking hard at their business processes as they move towards the new normal. These are our expectations but there is a great deal of room for further shocks to push the industry in directions that are not yet apparent. Fuel prices will increase from the current very depressed levels although they will probably be volatile as markets start reopening.

Bio-security standards that are created during the initial reopening will be standardised and enforced across the industry. This could take the form of virus checks at all ports, and vaccine certificates added to PNRs for inclusion in transmission of passenger details to destination immigration and government agencies. Based on experience after 9/11 we expect that some new processes will be put in place due to political pressures regardless of any evidence base for their effectiveness. Once implemented it will be almost impossible to remove them so airlines and airports are likely to have costs imposed for a very extended period.

Leisure demand will recover only very slowly as quarantine restrictions are lifted and prices increase. Corporate travel starts to pick up slightly as businesses resume international trade and services, although we do not expect corporate travel to reach anywhere near last year's level of demand for several years at least. Recession, downsizing, new habits and ways of working will now be engrained into society and the value vs. reward calculus will suppress demand for business travel.

Beyond 3 Years

Beyond three years we should be seeing a new normal state of affairs. Certainly the changes prompted by the immediate crisis should be well established. However three years is plenty of time for new crises to emerge and any prediction beyond mid 2023 should be seen as a no more than a possibility.

There will be fewer airlines and those that remain are unlikely to have recovered to pre-crisis status. BA believes that it will be "several years" before there is a return to 2019 passenger levels. Networks will be much reduced compared to today and those passengers with true global requirements are likely to need to do business with multiple carriers. Interline itineraries, whether traditional or virtual will be unavoidable.

One option that has been floated in some circles is that in markets with strong domestic airlines international travel may be handed over to a single dedicated carrier owned by a consortium of the domestic airlines. This idea was first proposed in the USA after the second world war and would have entailed the domestic airlines at the time taking equity in Pan Am and feeding its services at international gateways. On the whole we think this is an unlikely path for the industry to follow. It could only apply to a handful of markets and governance issues would be very challenging. On the other hand we are entering uncharted waters and this is a radical idea that could solve some problems, albeit at the cost of introducing substantial new ones.

The big question in this time scale is the extent to which demand will return. Assuming that an effective vaccine is made available world-wide and that general economic recovery continues with no more major shocks we expect demand to be in the range of 80-100% of 2019 levels by the end of 2024. If we are correct in our expectations of fewer airlines serving that demand the surviving carriers should have returned to a reasonably strong economic situation.

DEVELOPMENTS IN AIRLINE DISTRIBUTION

The Immediate Future

With the return of domestic travel before international we expect to see a further shift to direct bookings for simple itineraries. In 2018 T2RL reported a 50/50 split for the sale of passengers via direct and indirect channels. We expect this will lean more towards an 80/20 split within the immediate future. Additionally, the majority of indirect bookings have historically been associated with business travel and with few corporates still travelling for reasons outlined above it is no surprise that many travel agencies are currently relying heavily on government aid with the majority of staff on furlough. CWT has 70% of its global staff on furlough schemes[10].

Many traditional agencies are also beginning to feel the pinch with planned closures to high street branches being announced. TUI announced it will be closing 166 high street branches in the UK with a loss of around 900 jobs[11]. Flight Centre in Australia has also announced 1,500 job losses with many brick and mortar agencies set to close in Australia and the UK[12].

The ability of travel agencies to hold on to their share of the market will depend in part on their business practices in the next few months. While some customers will seek reassurance from dealing with a familiar name as airlines struggle for survival we are also seeing unwelcome practices such as high cancellation and change fees imposed by some agencies during the crisis. There are forces pulling in both directions and it is quite likely that we will see different behaviours in different markets.

12-24 Months

As markets start to open up again and government aid in many markets comes to an end we expect to see retrenchment in the travel agency business. In this time scale there is unlikely to be sufficient demand to sustain the current number of travel agency outlets. Small and medium sized agencies are likely to consolidate by mergers and failures while large multi-branch businesses will be undertaking a significant number of planned branch closures as has been previously reported. In line with that we expect to see a "clicks and bricks" model gain traction in which customers are able to transact much of their business online while retaining the possibility of a face to face encounter, albeit less conveniently local, for complex interactions.

[10] https://www.glassdoor.co.uk/Reviews/Carlson-Wagonlit-Travel-work-from-home-Reviews-EI_IE7116.0,23_KH24,38.htm

[11] https://www.theguardian.com/business/2020/may/13/tui-job-losses-travel-firm-greatest-crisis-coronavirus-europe-cut-costs#:~:text=Tui%20plans%20to%20cut%20up,and%20Tui%20has%20ever%20faced%E2%80%9D

[12] https://www.travelweekly.com.au/article/flight-centre-employees-face-a-further-1500-redundancies/

2-3 Years

We expect a continued increase in direct bookings due to simple point to point routes and as this is the most flexible channel for airlines to stimulate demand. Indirect traffic may see a slight increase in demand as corporate travel starts again with new processes needed for duty of care. There will be demand for significant new technology to accommodate regulations and processes for travellers to have tests or certificates added to bookings or at check in. Travel agents may be deeply involved in processing these. Some operators will adapt quickly but others may be overrun by the technology requirements. We may see travel agencies switching to GDS providers that are more effective in automating and simplifying these requirements. This would ensure a simpler model for agents to operate than a direct connect. Some direct channels will not keep up with the requirement to support a continuous scalable change regime.

We expect to see fewer travel agencies in the market due to bankruptcies and low demand. Online travel agencies will be under pressure due to the fall in leisure demand and will be competing more than ever with the airline direct channels. Those airlines with a strong domestic market and technological capability may have the ability to encroach on OTA territory. In effect a small number of airlines have an opportunity to become the 'OTA' in their home markets.

Beyond 3 Years

If airlines are successful in selling their domestic and even simpler international routes in direct channels they will have the ability to demand lower domestic GDS fees or even to take domestic content out of the GDS altogether as Air India did last year with Amadeus. Indirect bookings will look a lot more expensive than direct due to increased GDS fees being passed onto the traveller, putting further pressure on the remaining travel agencies.

THE GDS MARKET

The GDS business follows a two-way distribution model and its health depends on that of both airlines and travel agencies. In the short term GDSs are under great pressure. This may lead to significant structural changes in the medium and longer terms.

The Immediate Future

All three of the western GDSs are under huge pressure with revenue having practically dried up. Amadeus reported a decline of 102% in its distribution revenue for Q2[13] and Sabre also saw negative revenue for the same quarter[14]. To some extent this is offset by not having to pay any travel agency incentives but they also have largely inelastic fixed costs in staff, data centres and networks. Even before the COVID-19 crisis Travelport was the most vulnerable of the three as it

---

[13] https://corporate.amadeus.com/en/resources.financial-information-and-presentations

[14] https://www.thebeat.travel/News/Sabre-s-GDS-Revenue-Goes-Negative-In-Q2.

was mainly dependent on the traditional booking fee revenue stream while its main competitors both have other substantial lines of business. Those other revenue streams have also diminished significantly so for the time being all three GDSs are in essentially the same boat. As always TravelSky in China stands apart.

Amadeus has very substantial reserves of cash and liquid assets. It is well-placed to survive for an extended period from its own resources but nevertheless has undertaken a 550 million euro fixed cost reduction plan to be in place by 2021[15].

Amadeus' Cash Position

- EUR 660 M Cash

Cash preservation measures

- EUR 300 M Reduction in fixed cost and capex
- EUR 320 M Dividend payment cancellation (June 20)

Increased cash liquidity

- EUR 750 M New Capital Bonds
- EUR 1000 M Undrawn revolving credit facilities
- EUR 1000 M Incremental loan facilities

Sabre's balance sheet is not as strong but it is likely to be supported in the last resort by the US Government. Without its services American Airlines could not continue and several other US carriers would be severely affected.

The Lufthansa Group decision to terminate Sabre and Abacus GDS participation after 30 June 2020 sets a precedent that other carriers may follow. Fragmentation of content reduces the value of the GDS as an aggregator and forces agents to invest in technology if they wish to remain competitive. Time will tell if this strategy is valid.

Sabre's Cash Position

- 685 million USD Cash and cash equivalents (USD 375M credit facility)
- 1.075 billion USD Secured and exchangeable notes

TravelSky is supported by the Chinese state and in any case the recovery has started in China and seems on track.

Only Travelport appears to be very exposed. It does not have cash reserves at the same level as Amadeus and it does not have strategic importance to a national government. The sale of eNett

[15] https://corporate.amadeus.com/en/resources.financial-information-and-presentations

at the start of 2020 looks very challenging following Wex's announcement it would back out of the $1.7 billion shared deal and Travelport and Optal's position that they would seek legal remedy to enforce the sale. A court date for the start of the trial has now been set for September[16]. This would have given Travelport's private equity owners an immediate return and would have been a driver for the $4.4 billion buyout that was finalised in May 2019.

12-24 Months

We do not see the GDS business coming back strongly in this time scale. Any growth in airline traffic is likely to be based on direct sales. All three western GDSs will be in survival mode and we expect to see layoffs and the sale of non-core assets where feasible.

It is hard to see Travelport being able to continue as an independent business but equally it is hard to see an obvious buyer. It is unlikely that Amadeus or Sabre could justify such a purchase after cutting other resources. In any case they would probably not be allowed to acquire it by the regulators especially given the UK Competition and Markets Authority (CMA) position with respect to Sabre and Farelogix. Other potential suitors such as the big technology companies Google, Apple or Amazon would surely have other priorities at this time. The only slightly sensible buyer would be TravelSky but this would be a difficult proposition given tensions between the USA and China over trade and the blame game for the COVID-19 pandemic.

2-3 Years

We expect to see larger travel agencies due to consolidation, with increased purchasing power. This will create pressure for increased GDS incentives which will in turn lead to GDSs attempting to increase airline booking fees. If this happens it will provide further motivation for airlines to drive business to their direct channels and create a feedback loop that further pressurises the GDSs. Amadeus and Sabre can compensate for this by enhancing their airline IT offerings, Amadeus is already heavily promoting its NDC [X] program to airlines as a way to remain in control of being the one-stop shop for air content[17]. Travelport however will once again be exposed.

Whether by acquisition or its liquidation we expect Travelport to no longer be in the GDS market. The removal of Travelport from the market might reduce some of the upward pressure on agency incentives and perhaps enable the traditional GDS market to stabilise around two strong players with a focus on technology rather than distribution services.

Beyond 3 Years

We expect that by this time GDS full content agreements will have largely disappeared. If the remaining GDSs all have airline IT businesses we should see more contracts that package PSS and

[16] https://www.thebeat.travel/News/Judge-Sets-Trial-Date-Travelport-Wex-eNett

[17] https://amadeus.com/en/insights/blog/ndc-x-2020-half-year-update

distribution under a single agreement. This in turn will put more pressure on the smaller individual PSS providers. Airlines should become less sensitive to the channel in which they sell their product and able to take a more holistic view of marketing and distribution.

TECHNOLOGY CHANGES INCLUDING NDC AND ONE ORDER

The Immediate Future

Airlines are retrenching wherever they can. Information from airlines around the world is that technology staff are being laid off or furloughed. As a result, the majority of IT projects are on hold or cancelled completely.

Only those projects with immediate return are being pushed forward. In the short-term airlines are focusing on minor changes to e-commerce processes which may be needed to adapt to new regulations and enhance their direct distribution such as flexible seat maps and assignments, adding and adjusting ancillary sales processes, taking into account new payment methods and tools to simplify refunds, exchanges, reaccommodation and passenger communication. In other areas airlines are taking advantage of grounded aircraft to upgrade where it is usually difficult to do so for example, updating IFE systems, adding to engineering hours and undergoing staff training schemes.

The most important area for airlines at this point in time is undertaking contract negotiations with IT partners, especially for any contracts which are enforcing minimum passenger boarded payments.

Further roll-out of NDC and ONE Order is going to take a very low priority for the majority of carriers. The 2020 Leaderboard target of 20% of indirect distribution via NDC will be missed although perhaps not by very much since 20% of a very small number is an even smaller number.

Airlines will also need to start planning for the long-term. We expect to see an increase in the need for IT outsourcing as airlines search for ways to reduce fixed overheads and meet new business objectives with simpler business models. Vendors will need to reflect this through offering simpler solutions linked to immediate return.

12-24 Months

Much will depend on the GDSs being in a position to offer NDC pass-through at scale. If they are able to do so then airlines that have already invested in an NDC capability may be able to implement at low cost. This will depend on a realistic commercial approach being taken by all parties. In the most favourable case airlines with this capability will be able to react in a more agile manner to the indirect market upheavals of the coming years. Airlines that have not already invested in NDC are unlikely to do so in the short to medium term. This opens the door for PSSs to take over the NDC flavoured APIs.

With airlines shifting fixed costs to variable we can expect an uplift in cloud-based technology as airlines aim to reduce fixed costs on servers and other infrastructure.
Demand forecasting tools will be popular as airlines look to replace usual revenue management tools and practices to better predict demand for routes. Some airlines are taking a more agile approach to projects as they try to increase flexibility and speed up testing processes, releasing IT developments earlier than usual and undertaking development in an agile manner.

Airlines will also need to source IT that meets their new business objectives. This may include a more streamlined set of services with less complexity than they had before, no longer any need for all the bells and whistles that some of the larger vendors were providing. Vendors will also need to take this into account for new developments and potentially 'down-sizing' their offering to airlines.

As direct distribution will still be a key focus, self-service for travellers at the airport and other processes such as online servicing will be essential.

2-3 Years

There is potential for those airlines that had invested in NDC pre-COVID-19 to resume using those networks, if those agencies still exist and are able to support them. There will be great pressure on the NDC aggregators in the market and we are likely to see consolidation amongst them. We still foresee very few bookings via NDC. Traffic will be focused around direct channels of which the airline.com will be by far the most significant due to the need for flexibility and control. OTAs do not need to invest to consume NDC content and there is no value for them to do so. The larger OTAs are more than capable of setting up and most already have set up direct connects with airlines without using NDC.

A more direct market will also drive the need for more self-service tools likely to be linked to travellers' mobiles. Airlines will need less complexity in their IT to match a simpler model but as their own networks will no doubt have been reduced, they will need to be able to partner easily with other airlines. Virtual interlining or other simpler forms of interlining may see an increased demand.

Beyond 3 Years

Direct channels will be strong and due to increased GDS fees and fewer TMCs in the market airlines could start to take advantage of direct connects. These may use NDC but other APIs are available and may be easier to implement.

The growth of direct sales and a more "LCC-like" approach to business may generate interest in the same issues that prompted the development of ONE Order. However, it is likely that the disruption over the next few years will shift the requirements for ONE Order and require a complete rethink of its implementation.

Travel Technology Research Ltd, trading as T2RL is an independent research and consulting company that specialises in the market place for airline IT systems. Based on data gathered and analysed since the year 2000 it has defined and tracked classifications of airlines and their IT providers. Its research is used by airlines to enable them to make informed choices of systems and vendors and by the vendors to help them develop products that best meet the current and future needs of the airline industry. For further information, visit our website at www.t2rl.com.