

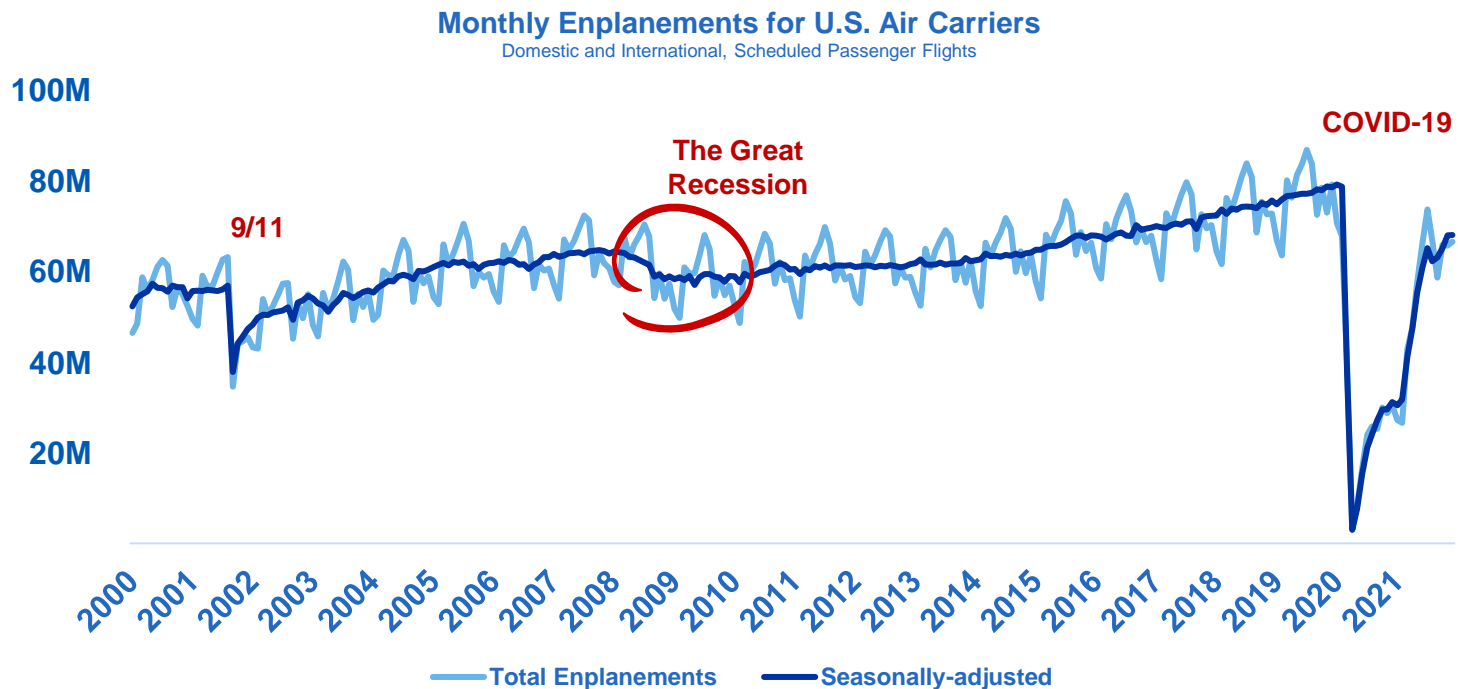
UP from the Abyss



Rethinking revenue management post-pandemic
at United Airlines

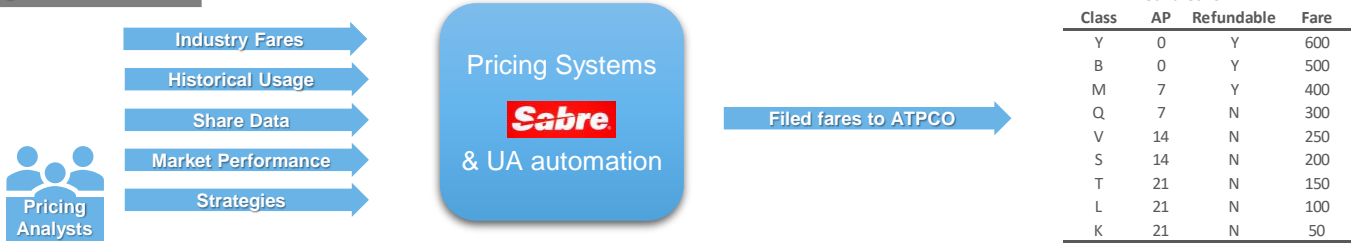
04 May, 2022

What COVID looked like to airlines



RM's goal is to forecast demand & optimize revenue

PRICING



INVENTORY MANAGEMENT



REVENUE DECISION SUPPORT



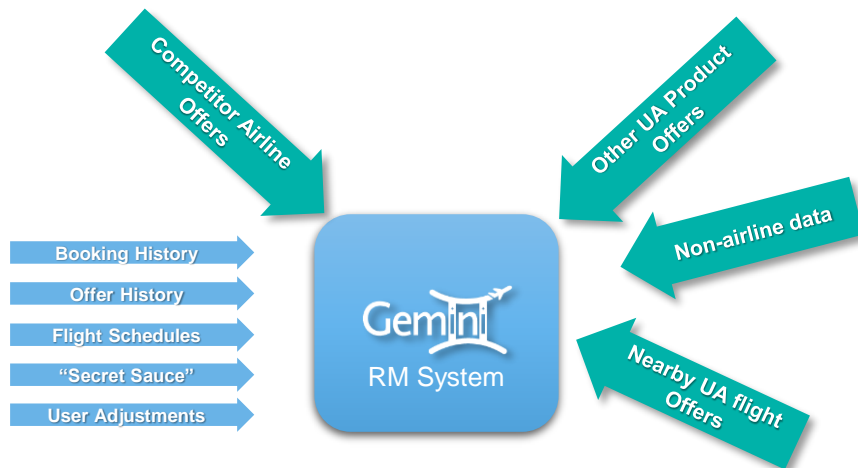
Pre-COVID, the trend was towards *more*

More products:

Filed fares for YYY-ZZZ

Class	AP	Refundable	Basic	Economy	Flex	Upgrade
Y	0	Y		600	635	775
B	0	Y		500	535	675
M	7	Y		400	435	575
Q	7	N		300	335	475
V	14	N	230	250	285	425
S	14	N	180	200	235	375
T	21	N	130	150	185	325
L	21	N	80	100		
K	21	N	30	50		

More data:



...and more Revenue

We improvised a lot during COVID, but kept an eye towards the future



INITIALLY:
Slashed schedules,
wild no-shows



EARLY PHASES:
Excess capacity –
“turn off” the
forecasts



THROUGHOUT:
Inconsistent,
unstable
global restrictions



THROUGHOUT:
Unprecedented
schedule volatility



RECOVERY:
Every new COVID
surge different
than the last

With sharply limited resources, support teams focused on modest near-term wins & building for the future

Increased versatility
to RMS users



RMS & Availability
Distribution to the Cloud

We leaned hard into our system's unique strengths... but wished we had more tools in our toolbox

Our systems had existing features that became much more important during the COVID recovery



PASSENGER
TYPES

BLENDED
FORECASTS



FORECAST
ACCURACY
METRIC



...But there were also features we desperately needed that were just outside of our grasp




MORE
PASSENGER
TYPES

TOP-DOWN
FORECASTING



CLAIRVOYANCE

Going forward, pandemic learnings will inform & refine (but not revolutionize) prior plans




Multi-conditional demand forecast


- Competitive offers
- Alternative UA itineraries
- Alternative products
- Alternative data sources

Context is everything


More passenger types
(and refine the current ones)



Different flavors of business




Visiting friends & relatives (VFR)



Top-down forecast

- Re-imagined Seasonality
- Higher-level forecast with improved choice models



Continuous is the new black

- Pricing
- Forecast
- Optimization

Cloud might be infinite, but it's not free (plus small data problems)