

Interpretation of results

At the 99% confidence level, we conclude that the Outside-In Boarding strategy is **better** than Random Boarding & **significantly better** than Back-To-Front. Random Boarding is also **significantly better** than Back-To-Front. The comparison is easy to make as for all 3 methods, the confidence interval on the mean does not overlap. Each is clearly outside the range of the other 2.

Our conclusion that the Outside-In method is the best is supported by the following researchers:

Author	Best strategy
Landeghem 2000	WMA*
Van den Briel 2005	WMA/Reverse pyramid
Ferrari 2005	WMA
Marelli 1998	WMA
Steffen 2008	WMA2
Stolyarov 2007	WMA
Bachmat 2009	WMA

*WMA : Window-Middle-Aisle, another way of calling it Outside-In

Our overall conclusion is supported by research conducted by Discovery Channel's TV series MythBusters (based off studies by Northwestern University in Illinois):

Method	Time
Back-to-front: Business boarded first, then the zones were boarded starting in the back and moving to the front of the plane.	24:29
Random with assigned seats: Business boarded first, then all rows and all passengers were allowed to board.	17:15
WilMA*: Business boarded first, followed by all window seats, then all middle seats, then all aisle seats.	14:55

*WilMA: Window, Middle then Aisle Seats. Source: Mythbusters

Times are quite similar for the Random Method and Outside-In method, but for Back-to-Front, Mythbusters' estimation differs from ours by nearly 4 minutes. This could be due to a delay between the groups entering the aircraft. Our simulation assumes 10 iterations (22.7 seconds) between groups but in reality, it could have been more.