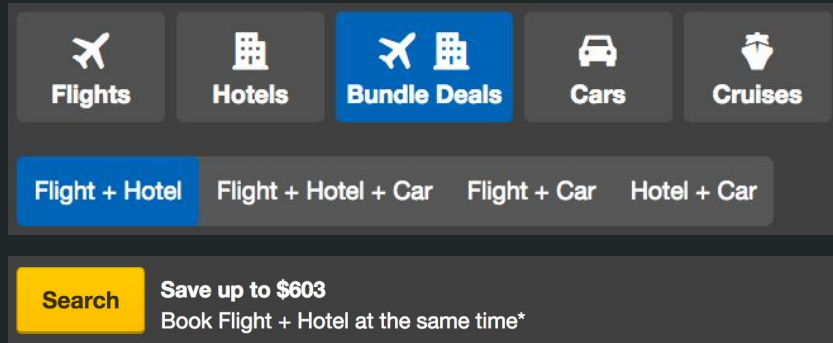


# The Whole Package

Capitalizing on Bundle Deals for  
Large Travel Groups

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By: Anscombe's Quartet  
(Alan, Cameron, James, Valerie)  
Yale | DataFest 2017



## A CONCERNED VACATION PLANNER...



WE ARE A FAMILY OF 7 I HAVE BEEN TRYING TO FIND A VACATION PACKAGE.  
BUT EXPEDIA WON'T LET ME BOOK AIRFARE FOR MORE THAN 6 PEOPLE.  
WHAT DO YOU SUGGEST I DO?



**⚠ Please correct the errors below.**

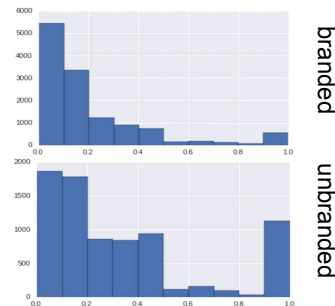
- We are only able to book between 1 and 6 travellers. Please adjust the number of travellers for your search.

### PACKAGE ALTERNATIVES:

1. Priceline.com: up to **8** travelers.
2. Bookit.com: up to **8** travelers.
3. Bravofly.com: up to **9** travelers.
4. Cheapoair.com: up to **9** travelers.

### BOOKINGS FROM PACKAGES:

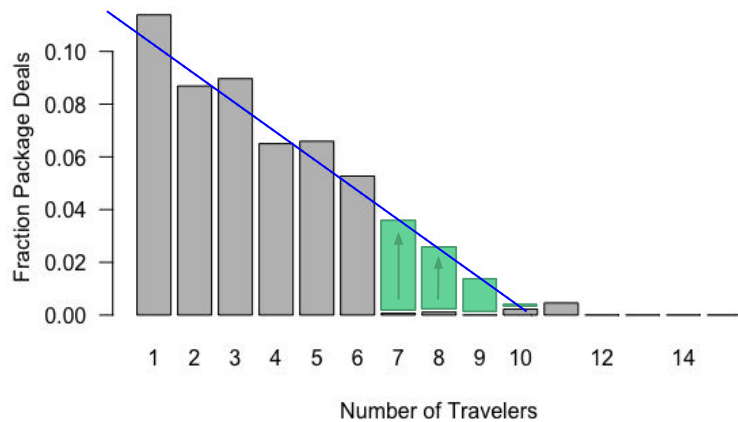
	90+%	10+%
Branded	4%	58%
Unbranded	14.4%	76%



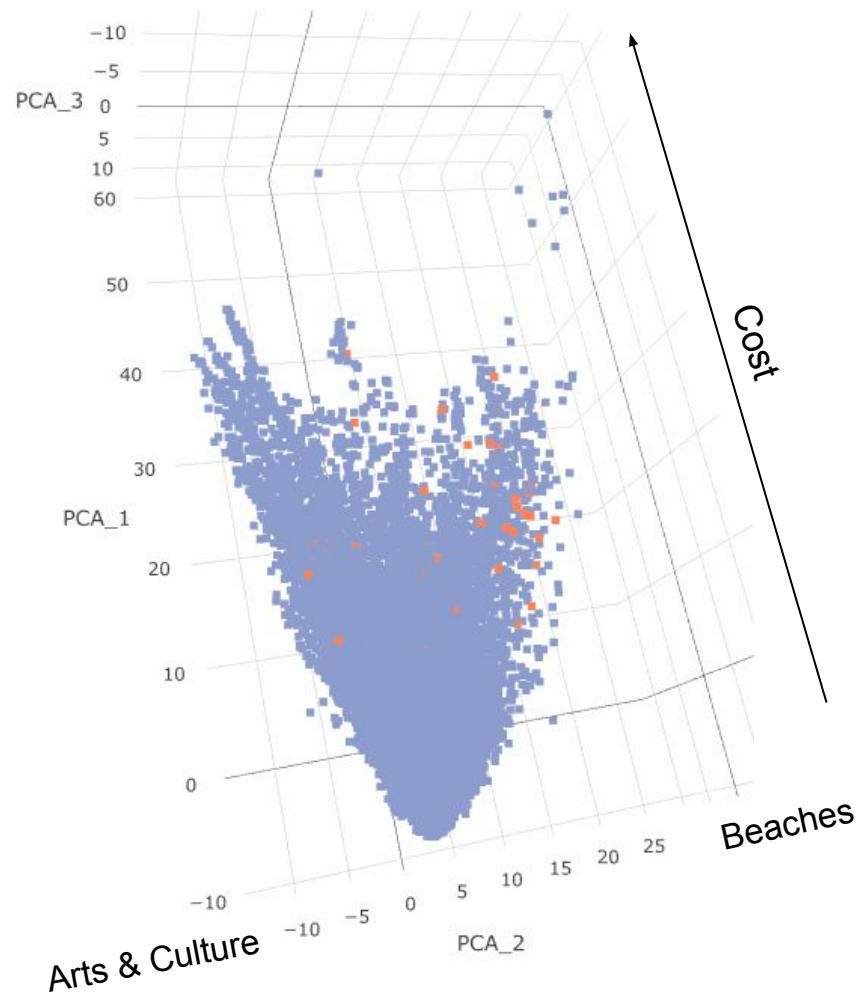
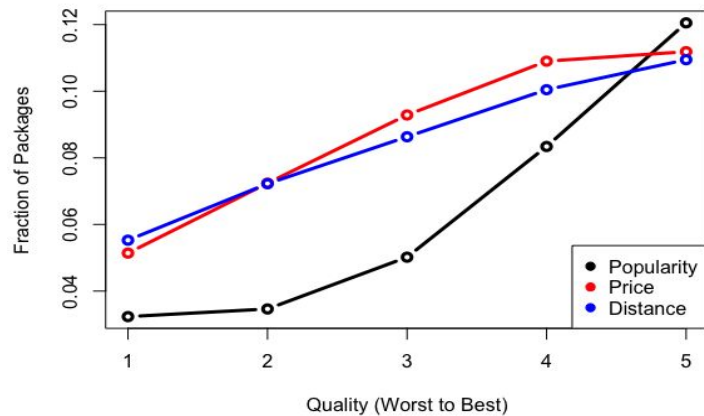
<http://sixsuitcasetravel.com/blog/2014/02/12/want-to-book-a-vacation-package-for-7-or-more-good-luck/>

→ Packages are more important to unbranded hotels

**Fraction of Package Deals for All Booked Purchases**



**Package Buying by Booked Hotel Quality**



# Potential Earnings from Packages

ID	Computed Value	Size of Travel Group					Formula
		7	8	9	10	Total (7-10)	
A	Fraction of packages in booked deals (predicted)	0.0444	0.0352	0.026	0.0168	0.1224	---
B	Booked deals	5523	1954	1090	641	9208	---
C	Packaged booked deals (predicted)	245.2212	68.7808	28.34	10.7688	353.1108	A*B
D	Packaged booked deals (actual)	2	4	0	1	7	---
E	Booked deals (predicted - actual)	243.2212	64.7808	28.34	9.7688	346.1108	C-D
F	Number of Individuals	7	8	9	10	8.5	---
G	Difference in Booked Individuals	1702.5484	518.2464	255.06	97.688	2573.5428	E*F
H	Difference in Booked Rooms (2 ind / room)	851.2742	259.1232	127.53	48.844	1286.7714	G/2
I	Total Monthly Rooms (80 M unique monthly visitors / 800,000 unique visitors in dataset)					257354.28	H*100
		Total Monthly Earnings Potential				2.89 M	I*22.43

Potential Biases:

- Ignores potential revenue from flights (**underestimate**)
- Assume people stay exactly one night (**underestimate**)
- Weighted sampling of given dataset (**unknown directionality**)
- Large groups may split their group or book hotel only (**overestimate**)

<sup>1</sup> [2015 Investor Report](#) - (\$22.43/night) - 69% of the \$6.6 billion in revenue was from hotels booking in 2015 over 203 million nights