Cohort Analysis: The Single Most Powerful Report in Google Analytics

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Executive summary: Cohort Analysis is one of the most actionable reports in GA. It lets you compare different user groups (cohorts) over time and helps you understand whether your business is improving or worsen.

Let's just dive right into it.

The single most overlooked report in Google Analytics is in my opinion: **Cohorts Analysis.**

It can be tricky to understand at first, but give it a try — it

will really pay off as it helps you investigate your data in much more depth than all other reports in Google Analytics.

What is cohort analysis?

Let's start out by defining what a cohort is.

In simple terms, *a cohort is a group of users who have a shared set of characteristics*.

So what could this set of shared characteristics be? Essentially anything. However, the cohort analysis report in Google Analytics is currently in beta (April 2017), and only offers to choose cohorts based on *acquisition date*. Acquisition date is in GA first time a user visited your website.

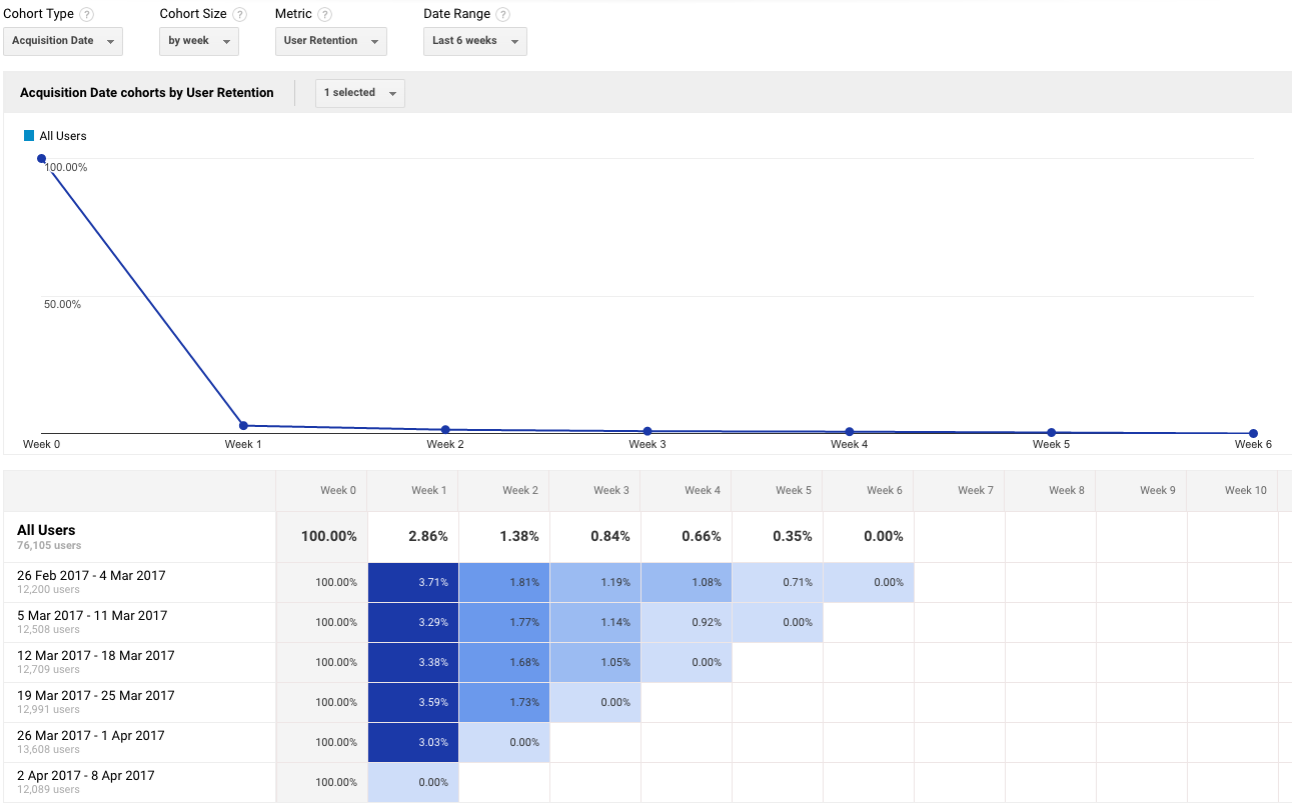
Although Google Analytics only offer the option to view cohorts by acquisition date, then the cohort analysis is so much broader than that.

Basically, you can break down your metrics by any cohort types. This *shared set of characteristics* could also be the type of device users use, what plan they are on (free, premium, enterprise) or other dimension you might have about your users.

Where do I find this cohort analysis?

Here (you need to login).

And for the lazy reader, here is an example of how it looks:



	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
All Users 76,105 users	**100.00%**	**2.86%**	**1.38%**	**0.84%**	**0.66%**	**0.35%**	**0.00%**				
26 Feb 2017 - 4 Mar 2017 12,200 users	100.00%	3.71%	1.81%	1.19%	1.08%	0.71%	0.00%				
5 Mar 2017 - 11 Mar 2017 12,508 users	100.00%	3.29%	1.77%	1.14%	0.92%	0.00%					
12 Mar 2017 - 18 Mar 2017 12,709 users	100.00%	3.38%	1.68%	1.05%	0.00%						
19 Mar 2017 - 25 Mar 2017 12,991 users	100.00%	3.59%	1.73%	0.00%							
26 Mar 2017 - 1 Apr 2017 13,608 users	100.00%	3.03%	0.00%								
2 Apr 2017 - 8 Apr 2017 12,089 users	100.00%	0.00%									

Cohort Analysis report from Google Analytics

There are four things you need to know about cohort analysis in Google Analytics:

Cohort Type: Only option here is acquisition date. This is what goes on the vertical axis.

Cohort Size: How large should the cohorts be? Do you want to divide your cohorts into days, weeks or months?

Metric: This is the metric that is being measured for each cohort. This could be user retention, revenue, session duration or any other metric you want to dive into.

Date range: This is the time period you want to review your cohorts. This can either be days, weeks or months, depending on what cohort size you have chosen.

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
All Users 76,105 users	100.00%	2.86%	1.38%	0.84%	0.66%	0.35%	0.00%				
26 Feb 2017 - 4 Mar 2017 12,200 users	100.00%	3.71%	1.81%	1.19%	1.08%	0.71%	0.00%				
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Cohort table in Google Analytics

At first it might look a bit scary. Lots of numbers.

Let's try to break it down a bit.

Cohort table in Google Analytics broken into different sections

1. This section shows your cohort time (which can only be acquisition date). In this case the cohort size is set to weeks and the date range is set to the last 6 weeks. So what you see in box 1, is the different cohorts of users grouped by what time they were acquired.
2. Box two shows their retention over time, in this case weeks.
3. This is where everything happens. These are the numbers you need to crunch. Take the cohort row 26. Feb — 4 Mar. This row shows how well you have retained those users who first visited you this period. Week 0 is 100% and week two is 3.71%. This means that 3.71% of the visitors acquired from 26. Feb — 4

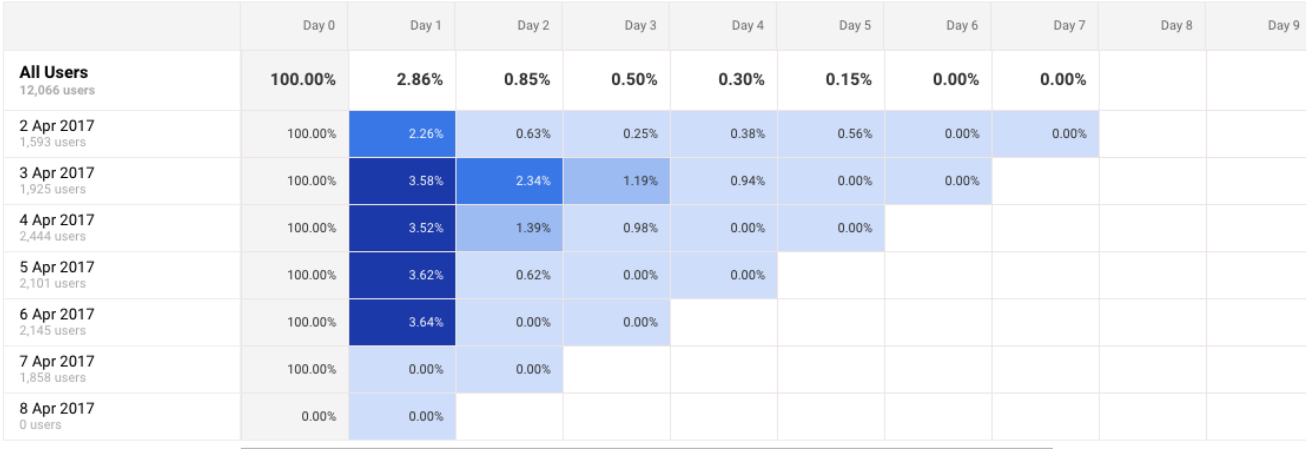
Mar came back the following week.

So in short: Vertically you have different groups of people grouped by the time they first visited your site and horizontally how they behaved over time.

Following so far? If not, read this section again. Otherwise continue :)

Another example:

Let's have a look at at the example from before (now broken down by days instead of weeks):



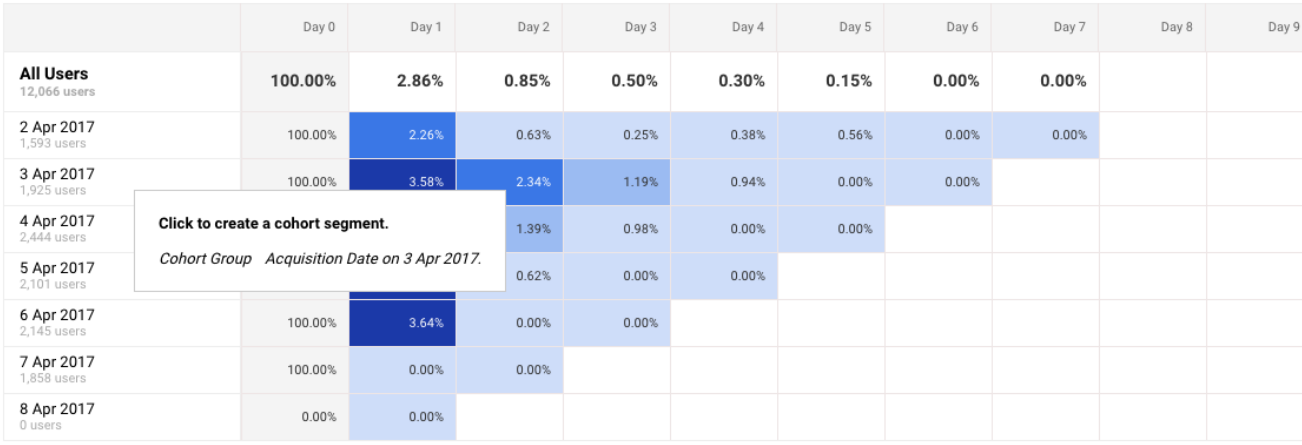
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
All Users 12,066 users	**100.00%**	**2.86%**	**0.85%**	**0.50%**	**0.30%**	**0.15%**	**0.00%**	**0.00%**		
2 Apr 2017 1,593 users	100.00%	2.26%	0.63%	0.25%	0.38%	0.56%	0.00%	0.00%		
3 Apr 2017 1,925 users	100.00%	3.58%	2.34%	1.19%	0.94%	0.00%	0.00%			
4 Apr 2017 2,444 users	100.00%	3.52%	1.39%	0.98%	0.00%	0.00%				
5 Apr 2017 2,101 users	100.00%	3.62%	0.62%	0.00%	0.00%					
6 Apr 2017 2,145 users	100.00%	3.64%	0.00%	0.00%						
7 Apr 2017 1,858 users	100.00%	0.00%	0.00%							
8 Apr 2017 0 users	0.00%	0.00%								

Metric type is "User retention"

It shouldn't take too long to see that something happens on the 3. Apr.

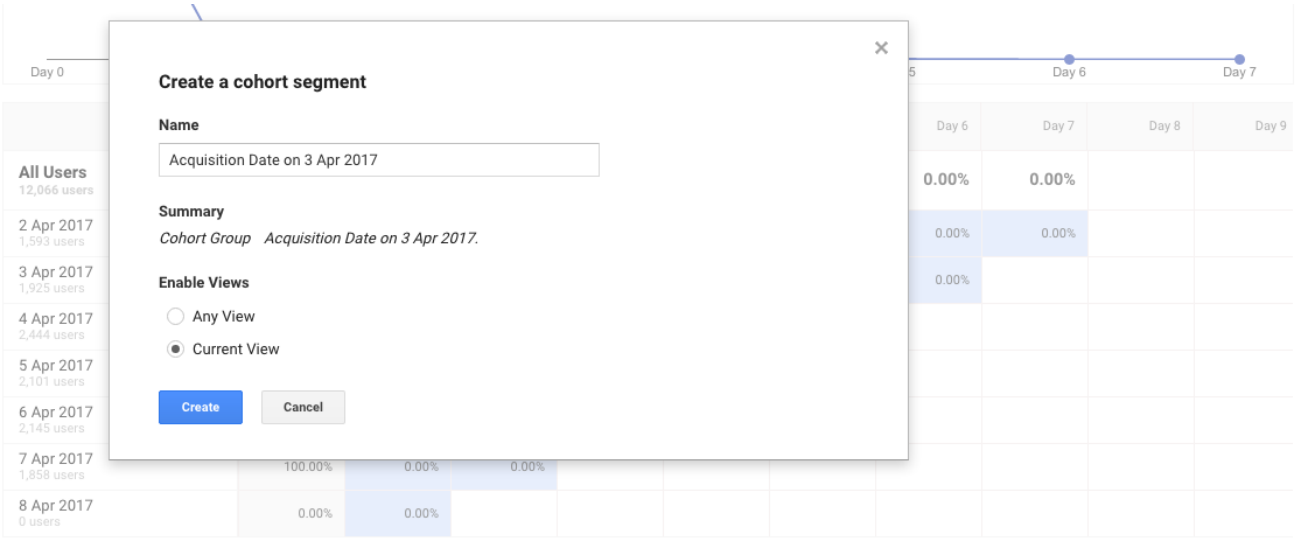
That cohort seems to be better retained.

When you identify things like this, then it's time to investigate! Google Analytics makes investigation easy. All you need to do is to click on the cohort you want to investigate:



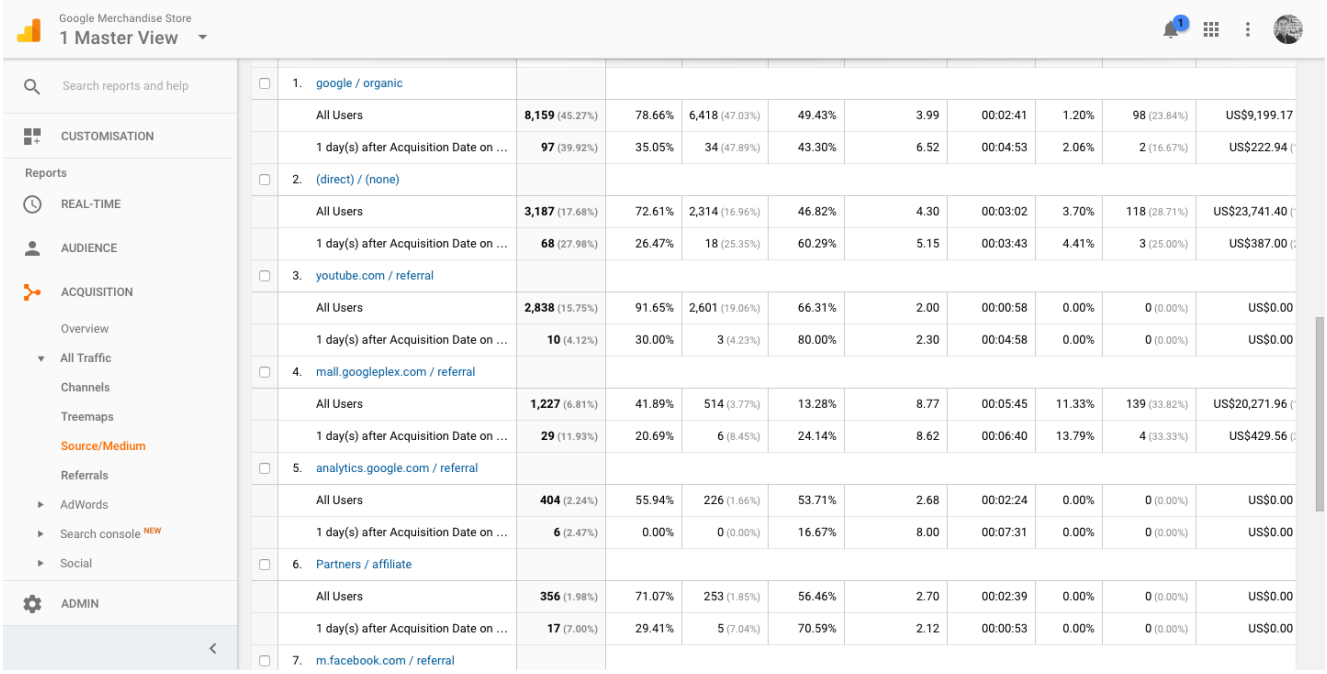
You can create a segment with one cohort in Google Analytics to further investigate that segment

This will allow you to create a segment which you can use in all your other reports:



Creating a segment with one cohort in Google Analytics

Now, we can see how that particular cohort performs in comparison to the average from the selected time period.



Cohort applied as a segment

Although the sample size is small, it shows that we have got a lot of returning visits from most sources. This type of analysis takes time! Finding insights in these kinds of reports are time consuming as you have to process much more information.

Now, why is this cohort analysis so important?

Cohort analysis is for the advanced user who don't just look at numbers the total number of users. Cohorts is a way to break those numbers down.

Where we normally would look at our data in totals or averages, breaking it down in cohorts allows us to understand those same users in more depth.

For those of you who have heard about vanity metrics, then

this is the complete opposite! Cohort analysis tells you whether your metrics are improving or worsen over time and thereby makes them more actionable than just totals or averages.

For instance you might know that you have a churn rate of 5%. But type of cohorts is really churning? In order to understand this you can use cohort analysis to better understand *WHO* is churning. For instance, try to break them down by:

- **What plan they are on:** Is it your enterprise customers who don't value your solution?
- **Their source of acquisition (or campaign):** Google Adwords might drive traffic, but if they are churning, are they any good then?
- **Their device:** Are we offering a poor mobile experience that makes users churn?

Overcoming the challenge

By now you must think:

"Phew, such many numbers and combinations of data!"

You are right.

Cohort analysis adds another layer of complexity to your metrics, but at the same time allows you to better understand your metrics as it breaks it down in a more

meaningful way.

If you are looking for books, check out these two: **My favorite book about analytics** and one of the **comprehensive books on Google Analytics** which also covers cohorts analysis.

No one said data analysis was easy. Finding the outliers in this not easy, but can help you uncover great insights about your business. But when you have familiarised yourself with cohort analysis, then you won't go back to your boring standard reports.

Worth a share?

I'd love some more feedback (and thanks to my old colleagues who took the time to give me that ;)). So please, if you liked it or not, I'd be thrilled to hear from you anyway. Just shoot an email at **bomannmertz@gmail.com** or post a comment below.

One little email can result in a blog post.

Also, if you liked this, I'd massively appreciate a share. It's really my readers that keep me going.

Thanks a lot for making it until here anyway :)