A growth analysis around the monthly transaction charts:

Main goals:

- Give the reader a perspective about the monthly growth rate of the VeChain blockchain, based on the amount of clauses each month.
- Graphical extrapolating the monthly growth, taken into account the monthly growth rate in the past.
- **Start a discussion about how realistic this growth rates are.**
- Check my maths. (Just a student 😊)

Assumptions:

- I took into account the amount of clauses because I think this is a good proxy of the amount of mainnet activity
- I decided to use simple statistics as a forecasting method to extrapolate into the near future
- All data obtained from vechainstats.com

Part 1

Table 1: Data clauses per month and average monthly growth (started from Sept '18)

Month	Amount of data clauses*	Monthly growth (%)	Average Monthly Growth
Sept '18	77 676	-	
Oct '18	101 905	+ 31	
Nov '18	168 228	+ 65	68%
Dec '18	422 164	+ 151	
Jan '19	533 606	+ 26	

* saw a small deviation in the amount of data clauses I worked with and the data clauses now, I think this has to do with a few transaction which where reverted.

When one would extrapolate this monthly growth (68%) into the future one could get following results (last column), because out of my personal opinion this rate of adoption seems to fast to maintain, I choose also to plot average growth rates of 20%, 30%, 40%, 50%, 60%.

Table 2: Forecasting the average monthly clauses untill dec/19

|	20%	30%	40%	50%	60%	68%
feb/19	640327,2	693687,8	747048,4	800409	853769,6	898620,4
mrt/19	768392,6	901794,1	1045868	1200614	1366031	1513324
apr/19	922071,2	1172332	1464215	1800920	2185650	2548516
mei/19	1106485	1524032	2049901	2701380	3497040	4291834
jun/19	1327782	1981242	2869861	4052071	5595264	7227672
jul/19	1593339	2575614	4017806	6078106	8952423	12171777
aug/19	1912007	3348299	5624928	9117159	14323877	20497908
sep/19	2294408	4352788	7874899	13675738	22918203	34519546
okt/19	2753290	5658624	11024859	20513607	36669125	58132717
nov/19	3303948	7356212	15434802	30770411	58670600	97898530
dec/19	3964737	9563075	21608723	46155616	93872960	1,65E+08
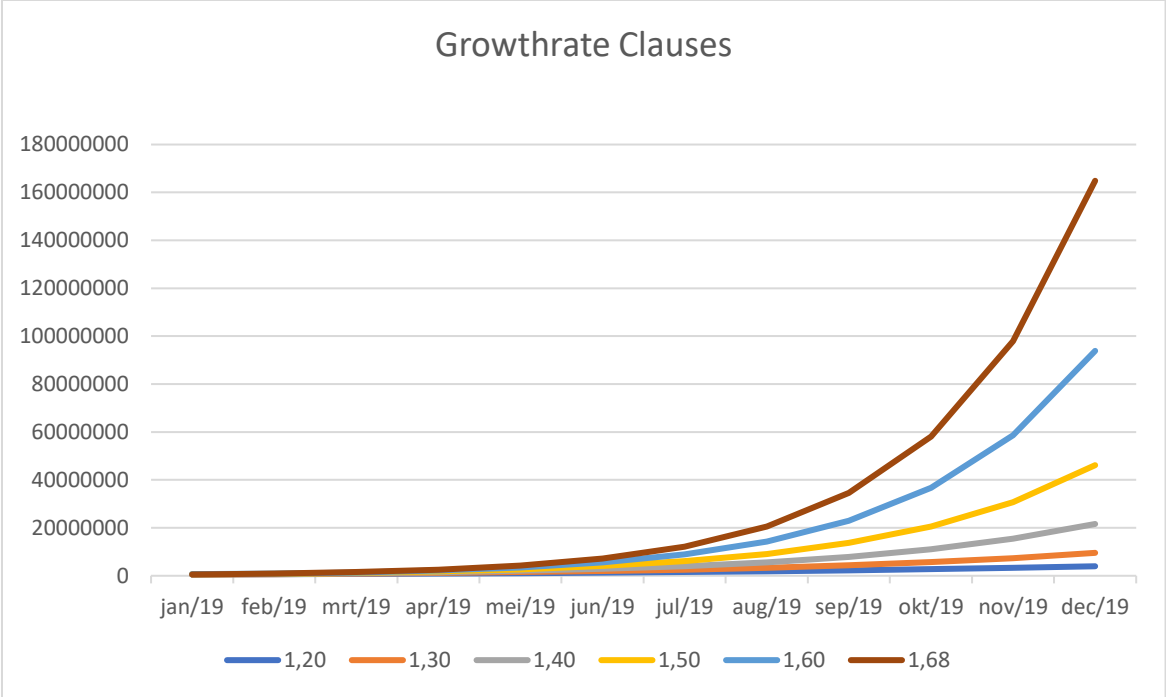
Figure 1: Graphical representation of table 2

Cleary, one could see the exponential growth rate of the monthly average clauses on the VeChain Blockchain. The result for just 1 year is really astonishing in my humble opinion. Nevertheless, I should make the remark that I don't know how realistic this model is.

Part 2

As many of my peers in the community I was worried about the amount of VTHR that is already created in the months that their was rather low amounts of VTHO burned in comparison with the amount of VTHO created.

So I calculated the VTHOR created each month (made some approximations):

Vtho per day	32110000
Vtho per year	1,17E+10
Real VTHO (30%)	1,52E+10
Vtho/Month	1,27E+09

Assumption: To take into account the amount of VTHO burned each month I took into account that one clause cost on average 21 VTHO

Amount of VTHO in circulation
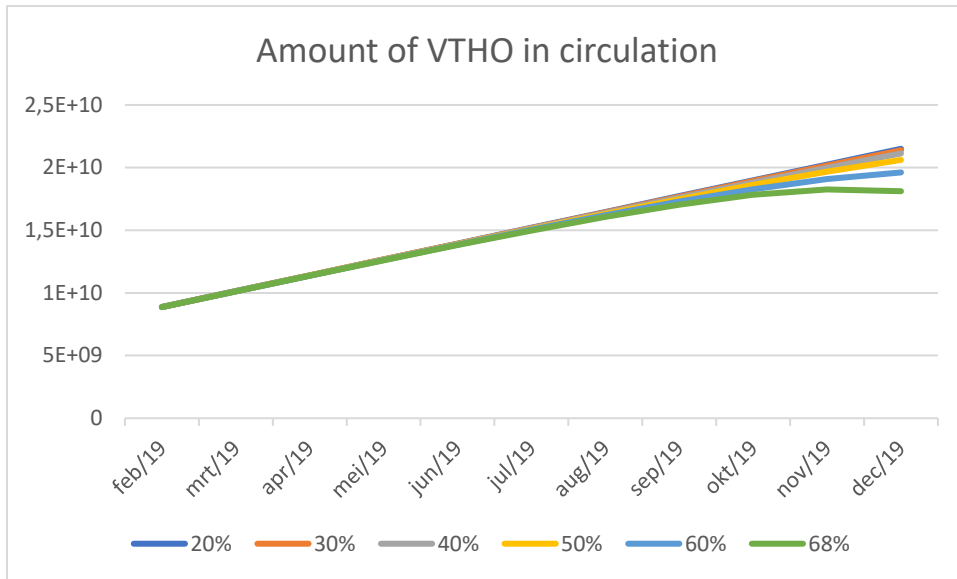
For this figure I took into account the amount of VTHO that is already generated minus the amount of VTHO used if you take into account the amount of clauses stated is table 2. You see that depletion of the total VTHO amount only starts when there is an average growth rate of 68% for the whole year, which in my opinion would be to high. (But who am I?)

Forecast of the amount of VTHO used per month divided by the amount of VTHO generated
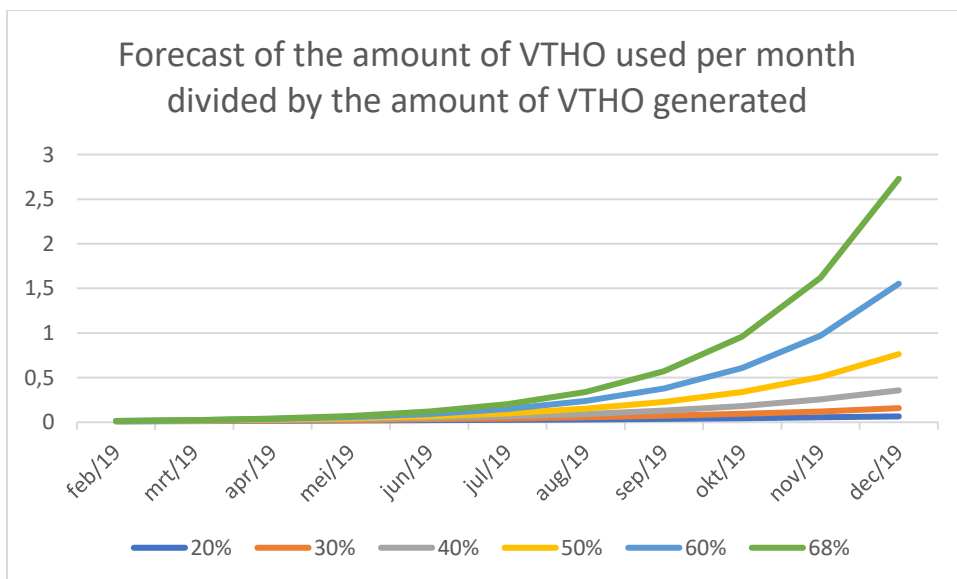
One should note that a ratio higher than high means there is more VTHO used than there would be created! This only happens on the last two growth rates (60 & 68%)