Reeya Pimple
ID:2122995

DATA 511

A2: Static Visualization Critique

The visualization given below presents us with an overview of the fastest growing developer communities in Crypto. While a few years ago Crypto was just considered to be a buzzword, in current times it has even managed to claim a fair share of total market capitalization. As a large number of cryptocurrencies are being launched, it has piqued the interest of investors who are looking to diversify their portfolio.

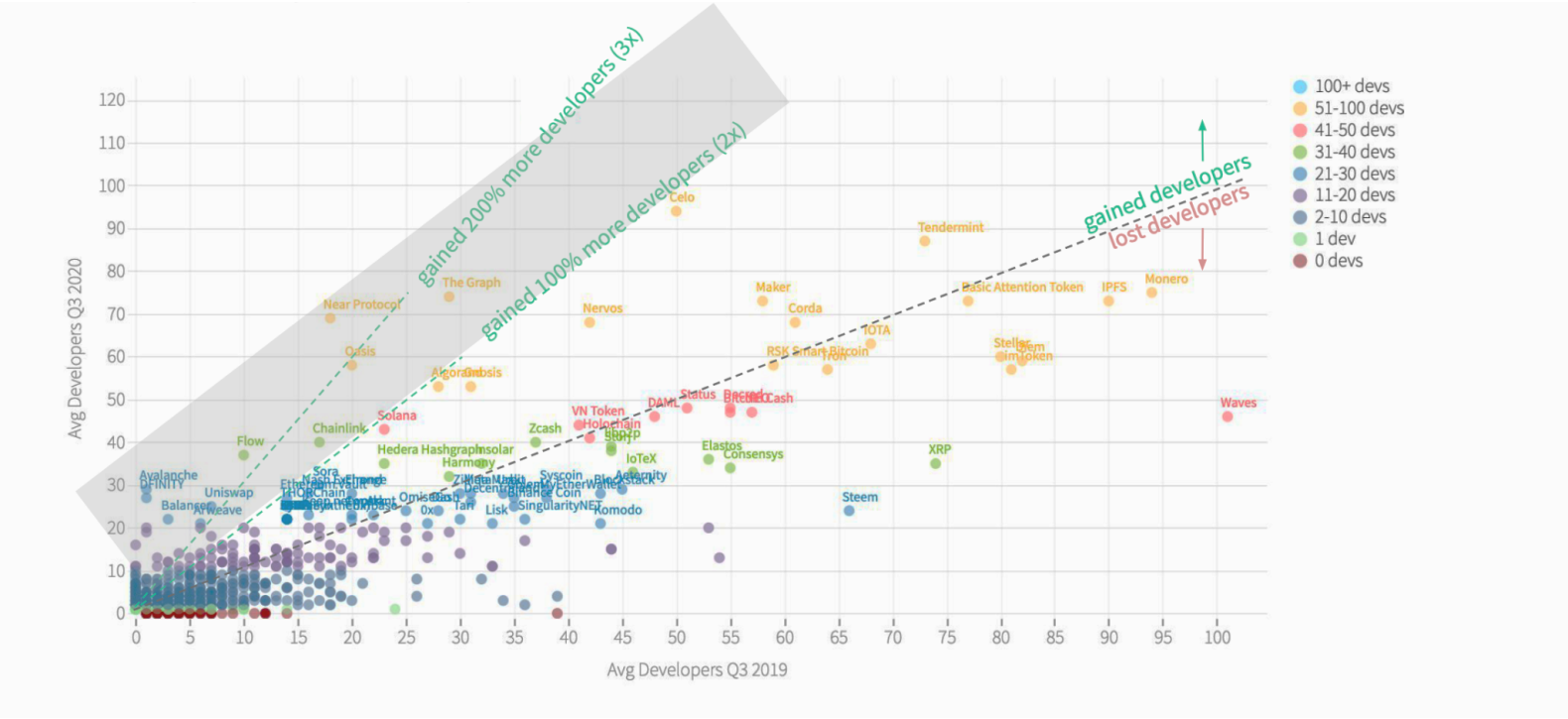

Figure 1. Crypto's Fastest Growing Developer Communities

We can observe from the image given below, that Cryptocurrencies amount to more than $1.5 Trillions and hence constitute a sizable market, but unlike the traditional asset classes given above, using its market capitalization to identify opportunities is not the best approach for investing in crypto [Read more]. As it is a new and less-explored market, we require other metrics to identify investment opportunities which is where analyzing the growing crypto developer communities can aid us.

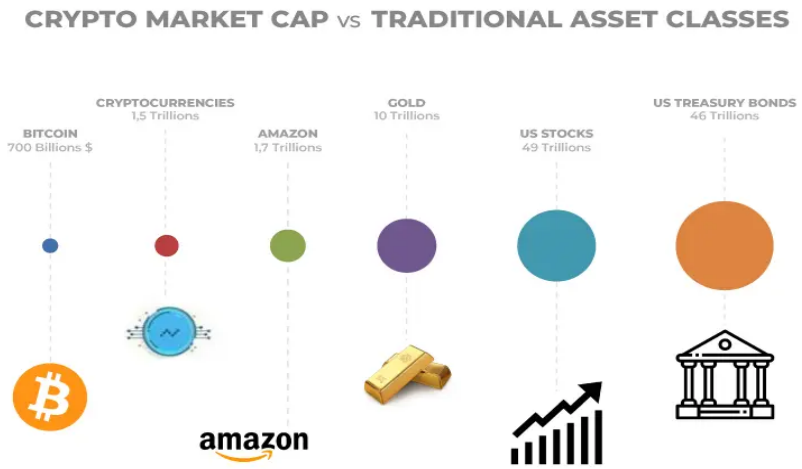

Figure 2. Comparing Market Capitalization of Cryptocurrencies and Traditional Asset Classes

Through the main visualization in Fig.1, investors can compare how the average number of developers in each crypto company have grown from Q3 2019 to Q3 2020, thereby identifying companies which display investment potential. While Year-on-year growth is usually depicted by grouped-column charts, this visualization is a departure from the norm, as it uses a Scatterplot through which it can represent significantly more data points. It also makes the use of color for encoding the "Average developers in Q3 2020". Even though this might seem to be a repetition as we are encoding the same variable using its position on the Y-axis, it helps us group the companies based on their actual size. It also makes the use of Trend lines to represent the different growth rates of companies. Hence, the encoding for this visualization is appropriate.

As the audience views this visualization, whether it's a potential investor or someone interested in financial trends, they can easily identify the companies with strong growth rates in each segment. As crypto is an emerging market, even smaller teams can have huge impacts and have potential for growth.

We can compare it to the visualization given below, which is aimed at the same audience and depicts the numbers of average monthly developers for various Cryptocurrencies. While Fig. 3 is able to include the Network Value into the visualization, it does an inadequate job of showing the actual growth of Cryptocurrencies. Due to the uniform colour, we are unable to get an estimate of the number of data points having less than 50 Active Developers. Whereas in Fig. 1, even without labels, the colors aid us in getting an estimate regarding the number of companies in each segment. The visualization in Fig. 3 also uses an inconsistent scale for its Y-axis, thereby misleading the viewer about the actual differences.

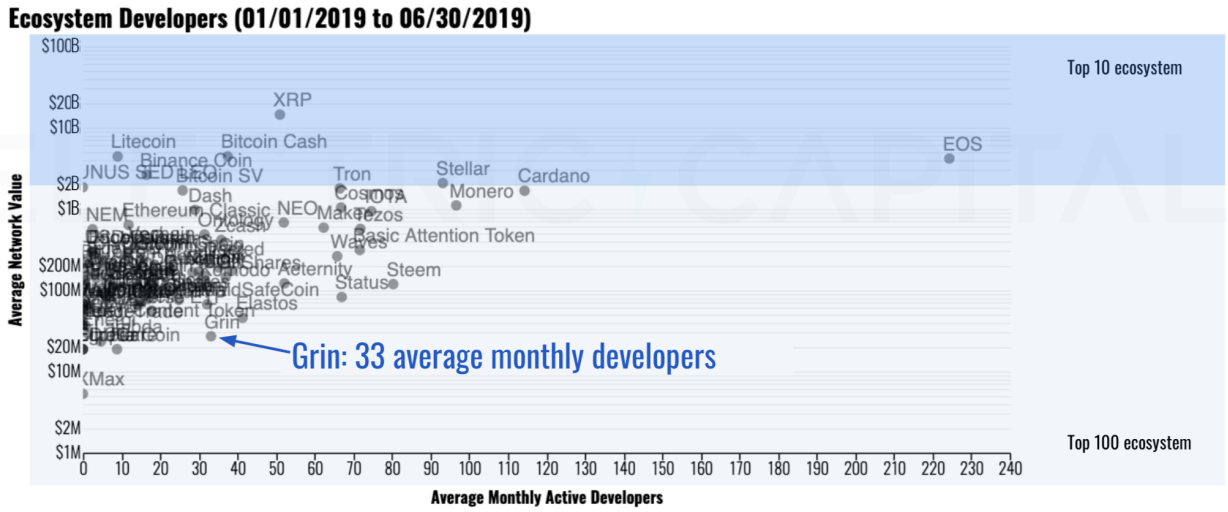

Figure 3. Comparing growth of Active Developers vs Crypto Network Value over the same time period

The main visualization given in Fig. 1 avoids the errors given above. It expresses the data correctly for its intended audiences, i.e. potential crypto investors, while being to-the-point and only displaying the facts given in the data. It is more effective as it uses color to help the viewer distinguish between the different developer team sizes. The trends lines, segregating the companies with 2X and 3X times growth, ensure that the viewer can identify the patterns in the data with ease. Overall, I believe the figure also looks aesthetic. As per Tufte's definition of Graphical Excellence, this visualization is a well-designed presentation of substance, wherein the ideas are communicated with clarity and precision.

The visualization falls short when we hold it against the last point of Graphical Excellence, wherein the greatest number of ideas have to be communicated with the least ink. I believe that including the market capitalization of each cryptocurrency would have made the visualization complete. There was an opportunity to represent the market capitalization segments through shape. The striking flaw in this is the

representation of all the cryptocurrencies with less than 20 Avg Developers in Q3 2020, as they're crowded together. Even though we can distinguish them on the basis of team size, we cannot identify them as there are no labels.

As mentioned above, the visualization can be enhanced by increasing its complexity which could be done by introducing the market capitalization of each cryptocurrency. We can also include a closeup of the cryptocurrencies with less than 20 Avg Developers in Q3 2020 in a separate graph, so that we can closely observe their performance too.

Upon observing multiple financial charts, this visualization stands out for me, as it doesn't include jargon. It is clear and concise and provides the potential investor with only the knowledge that is of prominence for identifying emerging cryptocurrencies. Oftentimes as data analysts, we take on the challenge of encoding the maximum number of variables in our visualization, even though all of them might not be of relevance to the end user. This visualization avoids that, and in turn enhances the given data making it easier to read.

Sources:

i. Figure 1 - Report by Electric Capital (December 2020)
https://medium.com/electric-capital/electric-capital-developer-report-2020-9417165c6444

ii. Figure 2 - Bitnovo Blog (June 2021)
https://blog.bitnovo.com/en/what-is-market-capitalization-its-use-in-crypto/

iii. Figure 3 - Consensys Blog (August 2019)
https://consensys.net/blog/developers/ethereum-has-4x-more-developers-than-any-other-crypto-ecosystem/