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On the Scrutinization of the NFT Valuation Factors

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***Abstract*—Supporting Non-Fungible Token (NFT) Software Development enables the creation and sale of blockchain-based NFTs backed by unique digital or physical assets. Its value classification is important to justify investment in software development. This study surveys the rapid increase in NFT popularity and proposes a methodology to assess the valuation of an NFT and be able to predict the ultimate success of an NFT. The main influential factors identified in the study are the community and scarcity, our result confirms these two main factors that can affect an NFT's valuation, and this poster paper will look in depth at the correlation between the factors and the value of the NFT and provides the future direction of research.**

Keywords—NFT Valuation, Blockchain Software, Digital Asset, Cryptocurrency

I. Introduction)

NFTs or non-fungible tokens are becoming more important recently, from being used to verify the authenticity of products to help pave the way for the future. “NFTs can increase security because it uses a decentralized blockchain architecture in which every transaction is encrypted in a decentralized environment.” [4]. Furthermore, the astonishing figures revealed that the total value of all NFT sales in 2020 was over 250 million [1], which is four times as much as it had been in 2019, and it continues to grow. “NFTs can be used for many assets such as digital arts, game items, and collectibles.” as stated in the research paper “NFT-based Fundraising System for Preserving Cultural Heritage: Heirloom."[8]Despite its quick popularity, there are many queries surrounding the topic. One of the main problems or queries includes what factors can influence the NFT's valuation and the predictability of it. This is especially important because if one can predict the valuation of an NFT, then a very large return on investment can be made. Furthermore, predicting the valuation of an NFT can also help to identify scams by looking at why NFTs fail and to avoid ones that will[5]. Through recent research and looking at past data, the results point towards a few main factors for an NFT's success[1]. The community/consumers and the scarcity of the NFT. Many of these factors may be subjective; therefore, being able to quantify this will help to predict the prices of certain types of NFTs. To quantify these values, this study looks at the principle correlation between the different factors and identifies the success factors of the NFTs.

II. Methodology

This study surveyed the top 20 NFTs in terms of sales volume of all time. To quantify the community, the number of social media followers will be compared to the total sales volume. Pearson's correlation coefficient has been calculated to evaluate our research hypothesis and to determine if they are correlated and what their related significant correlation is. For this research, the social media followers are the twitter followers with the assumption that twitter followers were most representative of the group of social media followers. To further quantify the scarcity of an NFT the research will look at the number of NFTs released into the community and extract that by the total number of social media followers. The Pearson's correlation coefficient is then calculated in order to determine whether or not the factors have a large influence on the total sales volume of the NFT. Those few without twitter accounts were factored out of the calculation in order to keep to their results being statistically consistent.

III. Community

The community or consumers of an NFT are one of the main influential factors that can influence whether or not an NFT is successful. This is because if an NFT has a large community prior to its release then the buyers know that there will be other guaranteed buyers. [3] An NFT's price point is very dependent on whether or not the consumers believe that their return on investments will be high or not, therefore a large community is crucial for the success of an NFT. Many successful NFT's before their day of mint (the first day people can buy the NFT) already had a large community of tens of thousands of potential buyers [4]. From the research conducted and the data gathered, the Pearson correlation coefficient was calculated. The Pearson correlation coefficient for the relationship between sales volume and twitter followers resulted in an R value of 0.582[6]. The threshold for a strong coefficient is anything above 0.7, therefore it can be concluded that there is only a weak correlation between twitter followers and the total sales volume of an NFT. Figure 1 shows a graphical relationship between the social media followers and the total sales volume. It can be concluded that there is a positive correlation between them as the line has a positive gradient.

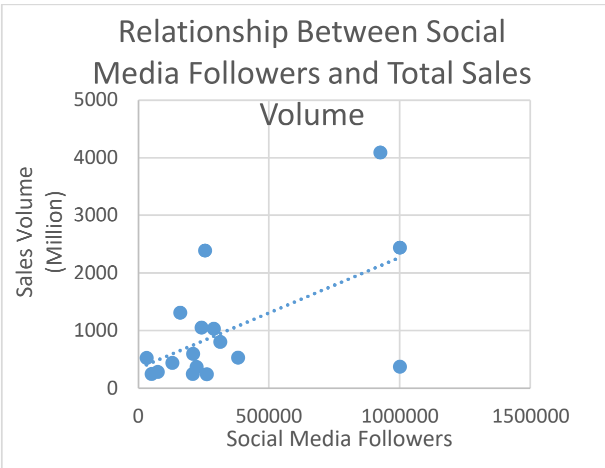

Figure 1: Graph showing relationship between social media followers and total sales volume

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IV. Scarcity

The scarcity of an NFT is the number of NFTs that can be released into the community. Usually, this lies between 5 and 10 thousand versions of the NFT that are available for minting. The scarcity of the NFT can be quantified by looking at the number of members in the NFT's community and the number of NFTs released. If we take the number of NFTs released divided by the total social media followers, we can observe an estimate for the scarcity. The underlying reasoning behind this would be that the number of social media followers is the number of people that want the NFT, and the number of NFTs released into the community determines the scarcity. Therefore, if we consider the number of NFTs released into the community divided by the total social media followers, we can obtain a comparable statistic for scarcity and establish a correlation relationship. After calculating the R-value for the relationship between scarcity and the sales volume, an R-value of -0.1837 was given[6]. This means there is a negative correlation between scarcity and the total sales volume of an NFT. This matches up with the reasoning because a higher calculated value for scarcity means it is less scarce and more common; therefore, the total sales volume would decrease. It can also be concluded using the R-value given that the scarcity and the sales volume are correlated, but it is quite a weak correlation. Figure 2 shows the relationship between scarcity and the total sales volume. The graph shows that there is a negative correlation which matches up with the calculated R-value and the reasoning.

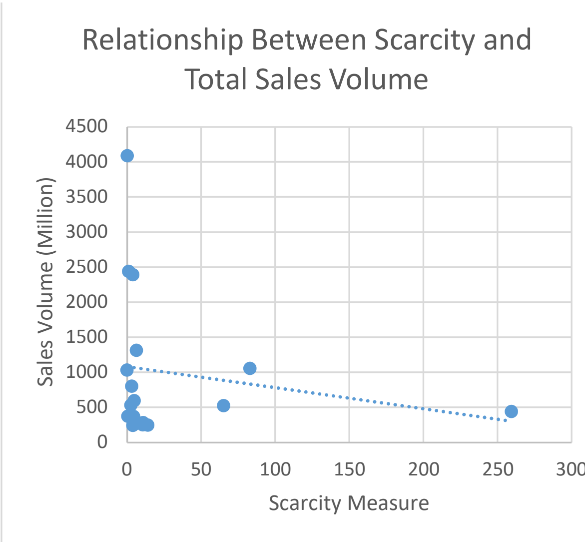

Figure 2: Graph showing the relationship between scarcity and total sale volume

V. Conclusion

In conclusion, there is a correlation between social media followers and total sales volume of an NFT. Just that the correlation is quite weak. Likewise, there is also a negative correlation between the scarcity and total sales volume. This matches up with the research conducted and the reasoning behind the factors. In the future, because the factor community is used in both calculations for quantifying the results, alternative ways can be used to quantify the community for example by looking at all social media platforms including Instagram, WhatsApp or Discord. Furthermore, big data can be used in order to get a more accurate representation of the results. The results provides a foundation of understanding supporting the investors and project managers in making informed decisions in order to maximize profit and return on investments in NFT project's.

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