**Sentiment Analysis using Twitter and VADER for Price and Transaction Volume Changes on Cryptocurrencies**

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**ABSTRACT**

Cryptocurrencies are rising in importance as an investment option and alternative currency. However, due to its young age, volatile nature, and lack of mainstream media coverage, investors are keen on finding timely market movement insights. One such source is Twitter because of its live feed of information on cryptocurrencies and emotional information from investors expressing their sentiments. This paper studies the extent to which Twitter sentiments can be used to predict price and transaction volume changes for the nine largest cryptocurrencies for the period of June 2021 to September 2021. The study was conducted using the VADER algorithm for sentiment analysis, while applying the Granger-Causality method for comparing the sentiment and their respective prices and transaction volume changes. Past studies have shown that sentiment analysis may work for several cryptocurrencies, however this study shows a different result, showing insignificant results on price changes while showing predictive capabilities in transaction volume changes. This discrepancy has not yet been explained before. Therefore, this study aims to offer an explanation for this discrepancy in the utility of public Twitter sentiment in forecasting cryptocurrency prices and transaction volume changes.

*Keywords: Cryptocurrencies; Twitter; Sentiment Analysis; Vader*