Understanding the Impact of Celebrity Endorsements on the Artificial Growth of Altcoins Through a Multi-Level Latent Class Analysis and Software Based Approach (Year 2)

Shah, Rushil (School: West Shore Junior/Senior High School)

In 2020, cryptocurrencies experienced significant growth due to increasing interest rates and a declining US dollar value. This resulted in a rapid proliferation in the price of Bitcoin and the emergence of over 10,000 different assets. The vast number of cryptocurrencies created challenges for developers who struggled to promote their unique assets. This led to the use of aggressive marketing strategies, including the use of celebrity endorsements. This research took a multidisciplinary approach aimed at investigating the factors contributing to the success of celebrity endorsements in promoting cryptocurrencies. A multilevel latent class analysis was conducted in R using poLCA to assess the connection between personality and intelligence groupings in the aspects of cryptocurrency purchases based on paid celebrity promotions. The model fit was assessed using the Bayesian Information Criterion and the Akaike Information Criterion. Furthermore, the researcher developed a HAR file software and an artificial growth tracker that tracks the sudden movement of these assets using technical indicators such as the RSI and Fibonacci retracement. After assessing the stationarity using the Augmented Dickey-Fuller Test, auto-regressive integrated moving average models (ARIMA) were developed that predict future developments and provided quantitative backing to the psychological data. The results of this research provide valuable insights into the complex interplay between psychological and mathematical factors that influence the growth and adoption of cryptocurrencies. These findings can be used to develop effective strategies to inhibit the artificial increase in the valuation of these assets and mitigate potential risks.