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Introduction

Initial appearance of Cryptocurrency/Bitcoin/altcoin happened in 2009.Now we know it’s going to stay. Question being addressed is which is the more stable than the other and what can be the right percentage of crypto should be in one’s investment portfolio.

Research Question

1. What are top cryptocurrency to be invested in and why?
2. What mix of cryptocurrency in portfolio is best? To determine what is more stable than the other.
3. Compare investment in crypto vs Gold & real-estate
4. How much can cryptocurrency appreciate?
5. Will cryptocurrency be used in commodity transactions soon?

Approach

1. Identify Crypto use case and market valuation of use case vs adoption.
2. Institutional adoption
3. World-wide laws in favor/against Cryptocurrency use.
4. Gold and Real Estate market prediction and additional costs
5. Market volume and users for different cryptocurrency
6. Identify Age Wise risky(aggressive) investment percentage in portfolio

How approach addresses the problem

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1. Future Appreciation:
    a. Market valuation of use case vs current adoption can determine future growth potential
    b. Gold and Real Estate appreciation prediction will provide comparison to
2. Risk factor:
    a. Institutional adoption data will provide stability data around cryptocurrency to under
    b. Regional favored laws for cryptocurrency
3. Market capture:
    a. User and market volume provide indicators for future stability
4. Investment Portfolio Mix:
    a. This will provide the minimum investment strategy in cryptocurrency

Data

1. Market capitalization data for top Crypto
2. Institutional investment data in top Crypto
3. User base of Crypto
4. Agewise investment mix
5. Future projects for cryptocurrency
6. https://www.kaggle.com/code/deepshah16/cryptocurrency-analysis

Required Packages

1. Treemap
2. Dplyr
3. Tidyr
4. Shiny
5. Caret
6. E1071
7. Plotly
8. tidyquant

Plots and Table Needs

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1. Treemap for Market capitalization
2. Barcharts for Risk-factor pointing of top crypto
3. Pie charts for crypto mix in portfolio
4. Table for data staging, processing and analysis

Next Steps

1. Get the dataset for all attributes
2. Transform the data for processing
3. Analyze the data
4. Setting up correlation between different data.
5. Data visualization

Ethical Considerations

1. During our Analysis, we haven’t used any PII data
2. Used Datasets have no restrictions for Academic usage
3. All used Datasets are Shared by respective government bodies for public benefits

References:

1. https://www.kaggle.com/datasets/deepshah16/meme-cryptocurrency-historical-data
2. Drummond, Chris, and Robert C. Holte. "C4. 5, class imbalance, and cost sensitivity: why under-sampling beats over-sampling." Workshop on learning from imbalanced datasets. Vol. 11. Washington DC: Citeseer, 2003.
3. Eitrich, Tatjana, and Bruno Lang. "Efficient optimization of support vector machine learning parameters for unbalanced datasets." Journal of computational and applied mathematics 196.2 (2006): 425-436.
4. Scikit-learn: Machine Learning in Python, Pedregosa et al., JMLR 12, pp. 2825-2830, 2011.
5. https://pirimidtech.com/predicting-cryptocurrency-prices-using-ai-ml/
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