Analytics on Cryptocurrencies

BUSINESS UNDERSTANDING DOCUMENT

Team: DS707 - 2017 - 01

Business Background

A *cryptocurrency* is a digital or virtual currency that uses cryptography for security. With the growing value of cryptocurrencies(market capitalization=$158.5 Billion as of Aug, 2017), the trading market around them is increasing. We look to analyse different cryptocurrencies and provide data backed insights.

Target users

Traders of cryptocurrencies will be target consumers of our analytics.
We want to keep them aware of trends in cryptocurrencies. Determine factors that help profit maximization so that traders can make data driven decisions while investing.

Objectives

Analytic milestones	**Tasks**	**Business Benefits**
Descriptive and Exploratory Analytics	Analyse the attributes of Bitcoin and summarize about the different cryptocurrencies.	Based on historical data, help the traders gain insight into the market and making them aware of the risk & trends. Identify other considerations during transaction like selecting the transaction fee, approval time among others.
Data mining - classification	Finding directional movement of bitcoin's historical market values.	Build a decision support framework that can be used by traders to provide suggested indications of future bitcoin price direction.
Data mining - clustering	Correlation between cryptocurrencies: Tackling the problem of selecting well diversified cryptocurrencies.	Better understanding of how the cryptocurrencies are correlated with each other. Risk minimization during investment.
Data mining - association rules	Identify associations between price and market cap/day of week/ unique users/ no of transactions.	The rules helps traders in making informed decisions.

Success Criteria

- An accuracy of >70% in predicting the directional movement of bitcoin price.
- Identify correlation between prices of all currencies.
- Find out unintuitive patterns in data.

Risks and Contingency schemes

- Data issues:
    - Sample the data.
    - Fill in missing values.
    - To reiterate business objectives.
- Results are not as expected:
    - Using more sophisticated machine learning algorithms.
- Project is not deliverable on time:
    - Use the buffer week for completing project.

Project Plan

Phase	**Time**	**Risks**
Business understanding	1 week	Economic change
Data understanding & Data preparation	1 week	Data problems, technology problems
Modeling & Evaluation	4 weeks	Technology problems, inability to find adequate model.