Cryptocurrency Analysis

1. Executive Summary:

This project provides an in-depth analysis of various cryptocurrencies over several years. Using a comprehensive dashboard, key metrics such as price trends, volume, and market capitalization of top cryptocurrencies by market capitalization are analyzed. The goal is to present real-time and historical data that can assist traders and investors in making informed decisions.

2. Problem Statement:

Background: Cryptocurrencies, being highly volatile and decentralized, require continuous monitoring to understand market trends and price behavior.

Objective: Develop interactive dashboards to monitor critical cryptocurrency metrics such as final close price, highest close price, average volume, and performance of cryptocurrencies over different periods.

Scope: The focus is on major cryptocurrencies including Bitcoin, Ethereum, Binance Coin, Solana, XRP, and others, with price comparisons, best/worst performers, and correlation analysis over selected date ranges.

3. Data Sources:

Primary Data: Historical price data and volume from Kaggle of various cryptocurrencies from 2013 to 2021. The data includes open, high, low, close prices, and transaction volume across various cryptocurrencies.

Secondary Data: External data sources for market trends and demographic information.

4. Methodology:

Data Integration: Extract data from CSV files for each cryptocurrency and load it into Power BI for visualization.

Dashboard Design: The dashboard is designed to provide insights such as:

- o   Final close price

- o   Highest and lowest close prices

- o   Average daily volume and market capitalization

- o   Best and worst performers in the last 30 days and 365 days

- o   Price correlation among different cryptocurrencies

Interactivity: The dashboard allows users to filter data based on date range and cryptocurrency, offering personalized insights for specific analysis.

5. Expected Outcomes:

- Interactive dashboards: Present real-time and historical insights on cryptocurrency performance.

- Data-driven decisions: Traders and investors can use these dashboards to identify trends, make comparisons, and understand market performance.

- Comprehensive analysis: Simplify complex data through visuals and analysis, aiding users in making strategic trading decisions.

6. Tools and Technologies:

- Power BI: Used for dashboard creation and visualization.

- Excel: For data extraction and preprocessing.

7. Risks and Challenges:

- Integration challenges may arise while connecting to diverse data sources.

- Ensuring data accuracy and consistency across dashboards.

- User adoption and training challenges for stakeholders unfamiliar with Power BI.

8. Conclusion:

This project provides a robust framework for analyzing cryptocurrency data using interactive dashboards. By focusing on key metrics such as price trends, market capitalization, and trading volume, the project will help traders and investors gain insights into the performance of various cryptocurrencies, leading to better-informed decisions.