GOVERNANCE DECENTRALIZATION AND PERFORMANCE OF BLOCKCHAIN PLATFORMS

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SIGNATURE WORK
CLASS OF 2022

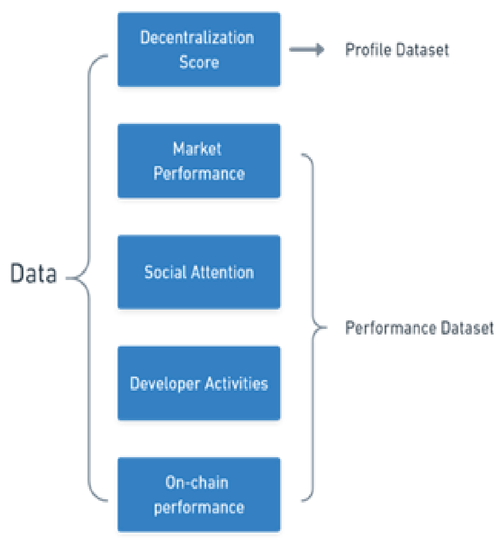
Introduction

- With blockchain technology getting wide adoption, digital platforms built on blockchains have also dramatically increased in scale.
- For both blockchains and blockchain-based decentralized applications, governance is a crucial component for a project's sustainable development.
- Overall, the study of governance on blockchain platforms is still at an early stage, which has been the main motivation of this research.
- This study focuses on the degree of decentralization in blockchain platform governance, more specifically, how governance decentralization is related to a platform's performances.

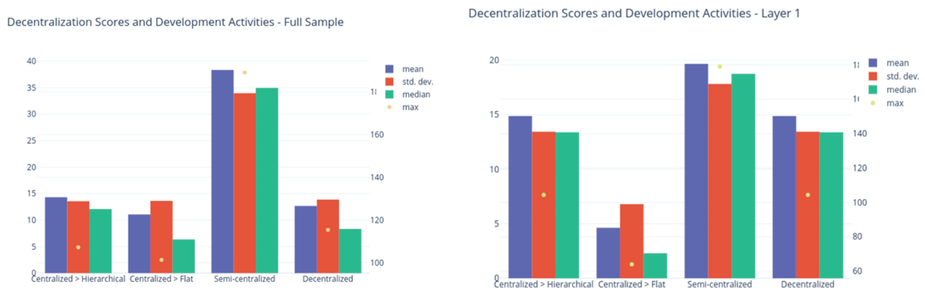
Data

Data Acquisition Processes

1. **Profile dataset**:
basic information on 253 blockchain platforms and their decentralization score.
2. **Performance dataset**: time series data of 8 performance metrics, such as maket cap, development activity, and sentiment, etc.

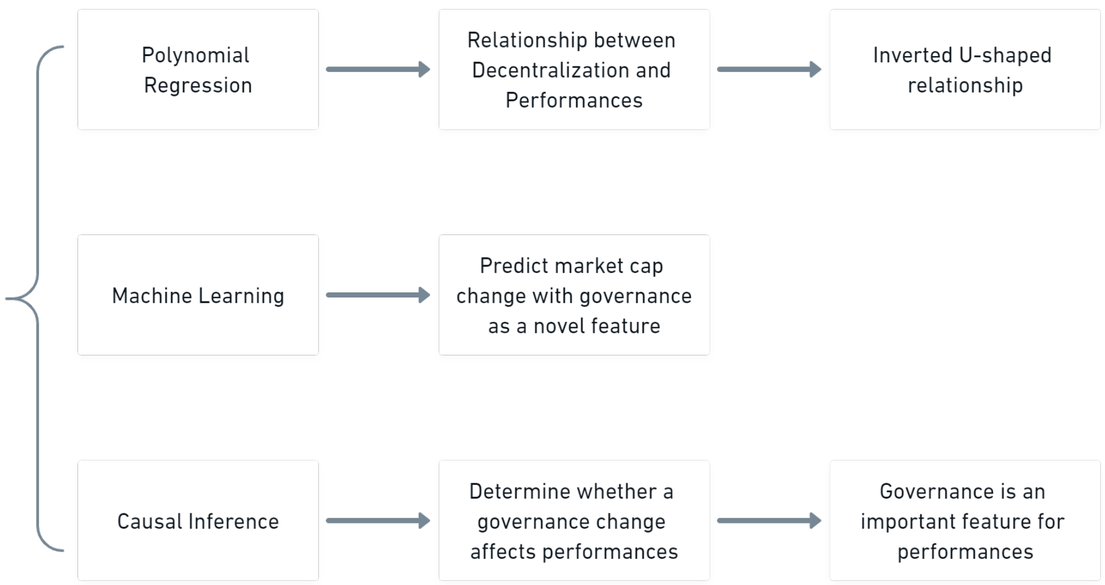


Preliminary Data Analysis

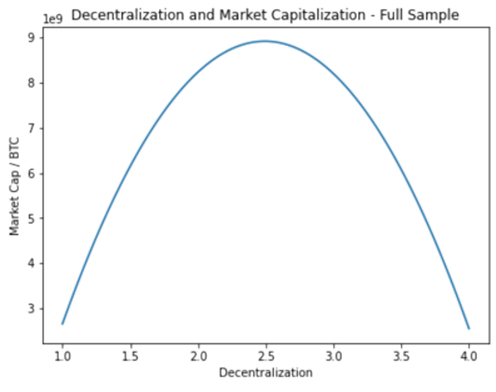


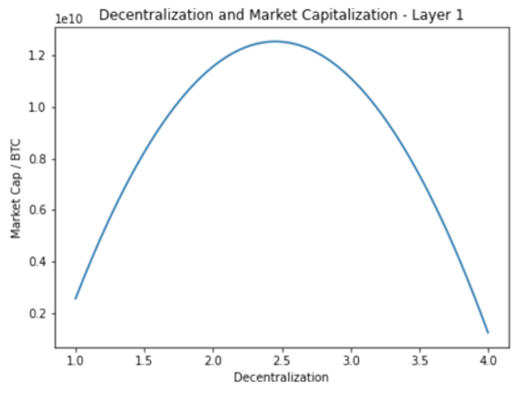
Difference in distrutions imply characteristic differences between layer-1 and layer-2 blockchain platforms

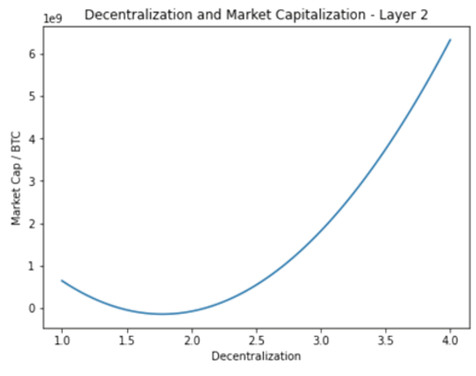
Methods



Results







- The interted U-shaped relationship between decentralization and performances hold in general
- Layer-2 blockchain applications show U-shaped relationshp, indicating difference between the two layers

Conclusion

- Verifies that semi-decentralization is the ideal degree of decentralization and the inverted U-shaped relationship between decentralization an performances.
- Contributes to the limited existing literature on decentralized governance
- Acknowledges the importance of platform governance, especially decentralized governance, on emerging blockchain platforms and the digital economy
- Contributes to the understanding of the importance of decentralization in blockchain platform governance

Discussion

- The depth and breadth of this study is mostly limited by the data availability, particularly governance data, as there is no consistent governance scoring in time series.
- The machine learning approach has not performed as expected due to issues in the data
- Further studies can examine the feature importance of governance in predictions.

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