BC Use Case
Initial Coin Offerings: risk or opportunity

Toma Anca Mirela and Paola Cerchiello

Final Workshop: Risk management of Financial Technologies
Fintech Ho2020
University of Pavia
www.fintech-ho2020.eu
18th of June 2021
ancamirela.toma01@universitadipavia.it

Fraud detection - ICO case study

- Initial Coin Offerings in the last years were a new yet uncovered mean to raise funds through tokens at the interplay of **crowdfunding** and **blockchain**.
- Mastercoin in July 2013 was one of the most successful and still operative is Ethereum which raised 3,700 BTC in its first 12 hours in 2014, equal to approximately 2.3 million US at that time.
- Few numbers (based on Coinschedule.com and ICO report by Lars Hafke)
  - around **6** bi USD raised in 2017 by **456** ICOs
  - around **21.7** bi USD raised till the end of 2018 by **1076** ICOs
  - around **3** bi USD raised in 2019 by **328** ICOs
- It's still a matter of risks and opportunities?
- Financial market authorities are very prudent and some countries ban straightaway all ICOs from their jurisdiction.

Data

- Our main goal is to contribute with an ensemble of alternative data and statistical approaches to the jigsaw puzzle of alternative crowdfunding systems, detecting which characteristics of an **ICO are significantly related to success and fraudulent behaviours.**
- Data collecting process involves structured and unstructured information from different web sources.

Typology of data collected:

- categorical, numerical and textual data, characteristics of white papers: elicited through textual analysis;team members(quantitative and qualitative information);type of buiness;the supporting community (social channels);Telegram's chat text.

Ongoing research and update

From the logistic regression the relevant variables are: the presence of a white paper, of a Twitter account, number of elements of the team, number of advisors, and scaled sentiment score.

From text analysis: the net sentiment based on NRC lexicon has a positive impact in discriminating success ICOs from failure and scam ones.

From the multilogit regression we report results for fraudulent and scam ICOs compared to successful ones.

Conclusions and ongoing research

This Use Case represented a preliminary work and we run different detailed and complete NLP analysis.

- Main improvement applied during research is the increase of sample
- The methodology of cross checking data revealed to be useful for fraud confirmation of many cases.
- The textual mining methodology revealed useful for different applications, such as credit scoring.
- Analysing features regarding the geopolitical and regulation situation might add a value.
- Analysing the ex post ICOs performances might be an added value.

Thank you for your attention.