

Information Asymmetries: Is Machine Learning a Solution?

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ABSTRACT

Purpose: The concept of information asymmetry in financial markets underlines uneven spread and heterogenous flow of information among participants. This condition leads to discrimination in financial sector when people with privileged information takes more benefits from investments and other options. Literature highlights information asymmetry as a significant barrier to financial inclusion. There is a need to understand the factors that cause information asymmetries in financial markets. Technological revolution including Artificial Intelligence (AI), Machine Learning (ML), big data, cloud computing and blockchain are systematically changing the behaviors of legacy financial institutions. In the light of this, the purpose of this study is twofold: 1) to identify the factors of information asymmetry and, 2) to propose a solution for the problem of information asymmetry.

Design/Methodology/Approach: The research is adopting qualitative approach to fulfill its objectives. A thorough literature review is performed to identify the factors of information asymmetry. Furthermore, fuzzy inference mechanism is applied in MATLAB to gain evidence on the role of ML in reducing the level of information asymmetry in the financial sector.

Findings/Results: There are two underlying factors of information asymmetry in financial markets. One factor is strategic problems and other consists of strategic and behavioral factors. Fuzzy logic, a ML technique, is capable to mitigate these problems by using non-traditional sources of data and to provide sources for even dispersion of information in the markets.

Practical Implications: Evidence for the current research is only taken from literature. Future research is expected to extend the work by collecting data from other sources also.

Originality/Value: Information asymmetry cause uncertainties in financial markets and increase unwillingness of investors to participate in financial markets. This leads to lower levels of financial inclusion in an economy. This study provides unique insights for solving the problem of information asymmetry with the help of ML technology. A new perspective is open with the findings of this study for implementation of AI in financial infrastructure of countries.

Keywords: *Information Asymmetry; Structural barriers; Strategic & Behavioral barriers; Technologies; Machine Learning*