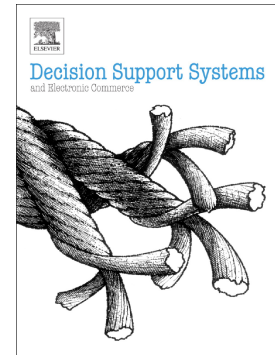


Accepted Manuscript

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PII: S0167-9236(18)30083-6
DOI: doi:[10.1016/j.dss.2018.05.001](https://doi.org/10.1016/j.dss.2018.05.001)
Reference: DECSUP 12952

To appear in: *Decision Support Systems*

Received date: 6 November 2017
Revised date: 10 May 2018
Accepted date: 10 May 2018

Please cite this article as: Lin Ma, Xi Zhao, Zhili Zhou, Yuanyuan Liu , A New Aspect on P2P Online Lending Default Prediction using Meta-level Phone Usage Data in China. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Decsup(2018), doi:[10.1016/j.dss.2018.05.001](https://doi.org/10.1016/j.dss.2018.05.001)

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A New Aspect on P2P Online Lending Default Prediction using Meta-level Phone Usage Data in China

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Abstract

P2P online lending platforms provide services where individuals lend money to others without the involvement of traditional financial institutions. Due to its convenience, the platforms have gained in popularity. However, these platforms may suffer a significant loss if they cannot make good loan decisions based on default prediction results. In this paper, we aim to support the loan decision on P2P platforms based on meta-level phone usage data when the information asymmetry exists for mass borrowers. We extract variables from phone usage data, and use an empirical study to analyze the relationship between these variables and loan default. Then a default prediction method is conducted for P2P lending based on the AdaBoost algorithm. The data used in this study are from the generalized used mobile phones, which make the method applicable to a wide range of users. The empirical study shows that phone usage patterns, including telecommunication patterns, mobility patterns, and App usage patterns contain predictive capability of loan default. The experiments on prediction method demonstrate satisfying performance, which suggests the proposed method has favorable potential being implemented in real-world P2P lending platforms.

Keywords: P2P online lending, meta-level phone usage data, default prediction, AdaBoost

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