

USING CLUSTERING ENSEMBLE TO IDENTIFY BANKING BUSINESS MODELS

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ABSTRACT

The business models of banks are often seen as the result of a variety of simultaneously determined managerial choices, such as those regarding the types of activities, funding sources, level of diversification, and size.

Moreover, owing to the fuzziness of data and the possibility that some banks may combine features of different business models, the use of hard clustering methods has often led to poorly identified business models. In this paper we propose a framework to deal with these challenges based on an ensemble of three unsupervised clustering methods to identify banking business models: fuzzy c-means (which allows us to handle fuzzy clustering), self-organizing maps (which yield intuitive visual representations of the clusters), and partitioning around medoids (which circumvents the presence of data outliers).



SPEAKER

Bernardo Marques is an Assistant Lecturer at Católica Porto Business School, currently doing a PhD traineeship at the European Central Bank. He has recently submitted his PhD thesis at University of Porto in the field of Finance, related with the analysis of banking business models. His main research topics are in the fields of bank intermediation, and the use of advanced clustering analysis and data mining techniques. He has published his first PhD paper (being presented here) in the journal Intelligent Systems in Accounting, Finance and Management, while his second PhD paper is currently in the 'revise and resubmit' stage of a peer-reviewed journal in Finance (ABS3).