6 Promoting Youth Banking: Application of Machine Learning

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Social responsibility and financial literacy have become priorities for financial institutions, regulators, and policymakers alike. However, the assignment of payment methods to young people, especially those aged between 13 and 17, follows different procedures by banks with non-uniform and not always clear criteria. Studies conducted on financial literacy or payment methods have not focused on this specific age group. Furthermore, studies on young consumers tend to examine preferences and habits of teenagers and young adults from a marketing perspective. This study utilizes standardized data from the OECD's Program for International Student Assessment (PISA) on financial literacy from 2018 and applies consumer socialization theory to define the financial literacy profile of youth aged 13 to 17. Subsequently, it analyses the determinants of financial literacy using machine learning models for the assignment of payment methods and banking transactions in this age group. Various analysis models are applied, with emphasis on the CRISP-DM, used throughout the various phases of the empirical study, including data preparation, modelling, evaluation, and implementation. The resulting algorithm allows for the assessment of adolescents' familiarity with financial concepts and segmentation by aptitude. After defining the threshold to consider aptitude for electronic payment methods, the algorithm's implementation standardizes criteria and weighs the determinants of youth financial literacy. The obtained results are relevant for bank managers, financial institutions in general, and supervisory entities, contributing to strengthening social responsibility in the financial sector.

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