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# Predictive Models for the Family Life Cycle in the Banking Environment

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The family life cycle is a theoretical model that describes the different stages that a family normally goes through during its life. These stages are associated with changes in the family nucleus composition and with the relations between members. From a banking point of view, it is important to note that the financial needs of the family will also change throughout its life. Therefore, the aim of this work is to build a model using statistical learning techniques, such as the supervised classification XGBoosting model, that provide information of the stage of the family life cycle corresponding to each client, to offer them the financial products that best suit their needs.

Therefore, we collect the socio-demographic, financial and transactional internal bank information. These data allow bank personnel to estimate the family stage of the bank adult clients, by XGBoost. They are calibrated by a training, validation and test process. All the used models are evaluated and compared using suitable metrics.

The information provided by the proposed methodology will be included in the propensity models used by the bank. It will be used to improve bank tasks such as the developing of propensity models referred to the contracting of a life insurance. For example, when a person has children, they need to ensure certain capital for them in case of death, incapacity or other unpredictable issue. Consequently, we will be able to estimate which clients have a high probability of having children, and thus need this type of insurance.

## Keywords

Family life cycle, supervised classification, economy

## Classification

Both methodology and application

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