Lifetime value in the bank industry

The Client Intelligence and Modelization Team of the National Bank of Canada has been working for some time on an indicator called *Customer Life Time Value (CLV)*. One of the tasks assigned to this team is to analyze and predict a client's varied behaviours and infer from them a value representing the revenue generated for the bank by the client over his or her lifetime. The team's goal is to propose a method or algorithm for estimating the CLV. The CLV will then help the National Bank define, understand, and predict in a novel way the relationship between a given client and the National Bank.

In order to develop a method for computing the CLV that is specific to the banking sector, one must take into account the notions of acquisition and disposal for diverse banking products and services, their volume and profitability, as well as the clients' characteristics (such as geographical, demographic, or market data). Obviously the profiles, products, or services of the bank's clients vary greatly; so do their behaviours and expectations. The team's goal is to devise a statistical approach allowing them to make predictions while taking into account the most probable scenarios for each client. In particular the team wishes to study algorithms for classifying clients into clusters, to model a client's behaviour as a stochastic process, and to study approaches based on simulation.

The team's ultimate goal is to compute, for a given client, a monetary value representing the expected total profit accruing to the National Bank over the client's lifetime.