## Modeling Customer Loyalty Using Customer Lifetime value With BG/NBD and GAMMA-GAMMA Model in Retail Industry

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## **Abstract**

The definition and modeling of customer loyalty have been central issues in customer relationship management since many years. Recent papers propose solutions to detect customers that are becoming less loyal, also called churners. Customer lifetime value (CLV), is the prediction of a company's net profit contributed to its overall future relationship with a customer.

Lifetime value is a critical metric because it represents the maximum amount that customers may be expected to spend in order to acquire new ones. As a result, it's crucial in determining the payback of marketing expenses used in marketing mix modeling. We will realize lifetime value with medium and long-term projections for individuals by including the specific pattern of the whole population, by extracting the conditional probability distribution, and generalizing them in terms of the characteristics of a particular individual. There will be BG / NBD and Gamma Gamma models that will make this happen to us. This will help company to segment its customers and determine marketing strategies according to these segments. For example, it is desired to organize different campaigns for new customers and different campaigns in order to retain customers that are very profitable for the company.

## **Keywords**

Customer life Time Value(CLV), Customer Loyalty, Prediction models, BG NBD Model Gamma Gamma Model.