TESTING THE HYPOTHESIS ON THE CUSTOMER'S ACTIVENESS

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ABSTRACT

This article gives a method for testing the hypothesis that a customer is still active. The method hinges upon the assumption that the purchases are Poisson-process generated during the customer's active phase. A numerical example is given to illustrate the method. Usefulness of the method is also discussed.

INTRODUCTION

An inactive customer is likely to be the one who makes a large number of purchases (a shopping spree!) early on and then makes no purchases for a long period afterward. Letting the observation period be one unit of time and assuming Poisson-process purchasing during the customer's active phase, the number of purchases "n" and the time of last purchase "T" contain all of the information that we need to develop the method to test a hypothesis on the activeness of a customer. The assumption of Poisson-process purchasing while the customer is active, is an appealing one for products not bought regularly on one hand and it has extensive empirical support for the purchasing of frequently-purchased customer packaged goods on the other. Some of the empirical support for the Poisson assumption comes from while working with negative binomial distribution (NBD) model which assumes that Poisson process accounts for the purchases made by each individual. The motivation to develop a test on the hypothesis of a customer's activeness comes from the work of Ehrenberg [1] and Morrison [2] among others, who have discussed the effectiveness of NBD model in representing some properties of the observed purchases under the assumption of Poisson-process purchasing. To illustrate the method a numerical example is presented. How can our ability to distinguish active and inactive customers be useful in a practical set up is also discussed.

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