

## Computing Customer Lifetime Value in E-Commerce Websites with Regard to Returned Orders and Payment Method

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**Abstract :** As online shopping is becoming increasingly popular, computing customer lifetime value for better knowing the customers is also gaining more importance. Two distinct factors that can affect the value of a customer in the context of online shopping is the number of returned orders and payment method. Returned orders are those which have been shipped but not collected by the customer and are returned to the store. Payment method refers to the way that customers choose to pay for the price of the order which are usually two: Pre-pay and Cash-on-delivery. In this paper, a novel model called RFMSP is presented to calculate the customer lifetime value, taking these two parameters into account. The RFMSP model is based on the common RFM model while adding two extra parameters. The S represents the order status and the P indicates the payment method. As a case study for this model, the purchase history of customers in an online shop is used to compute the customer lifetime value over a period of twenty months.

**Keywords :** RFMSP model, AHP, customer lifetime value, k-means clustering, e-commerce

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