Abstract. This paper is concerned with the Bass model which is widely used as a first-purchase diffusion model in marketing research. Estimation of its parameters has been approached in the literature by various techniques. In this paper, we consider the nonlinear weighted total least squares (TLS) fitting approach. We show that it is possible that the TLS estimate does not exist. As a main result, two theorems on the existence of the total least squares estimate are obtained, as well as their generalization in the total $l_s$ norm ($1 \leq s < \infty$). Several illustrative numerical examples are given to illustrate the efficiency of our approach.