Customers have a wide variety of choices in selecting a method of payment in modern society due to advancements in technology. We investigate the method of payment habits of banking customers using item response models. We consider three binary item response models used in the literature within an empirical Bayesian framework. These models capture the heterogeneity and complexity of customer perception on methods of payment in different capacities, with different features. For this reason, model assessment methods need to be developed for better inferential purposes. We introduce an assessment criterion based on predictive simulations and illustrate the approach using graphical summary measures. The approach is further highlighted using empirical financial data.