## Empirical Model

We fit the sales, sales rank, reputation and self-representation data to the following log-linear relationship.

$$\ln(Sales_j) = \beta_0 + \beta_1 \ln(Sales\ Rank_j) + \beta_2 Reputation_j + \beta_3 Self\text{-}Representation_j + \beta_4 \ln(Sales\ Rank_j) \times Reputation_j + \beta_5 \ln(Sales\ Rank_j) \times Self\text{-}Representation_j + \varepsilon_j \tag{1}$$

The $\beta_1$ coefficient measures how quickly doctor $j$'s demand falls as the sales rank increases, which indicates market concentration. If the E-consultation has a long tail effect, then $\beta_1$ will be less negative. In contrast, if the E-consultation has a super-star effect, then $\beta_1$ will be more negative.

The $\beta_4$ on the interaction term measures the moderating effect of online reputation on market concentration. If online reputation weakens market concentration, then $\beta_4$ should be positive and significant (given $\beta_1$ is negative and significant). In contrast, if online reputation strengthens market concentration, then $\beta_4$ should be negative and significant.

In the similar way, the $\beta_5$ on the interaction term measures the moderating effect of self-representation on market concentration. If self-representation weakens market concentration, then $\beta_5$ should be positive and significant (given $\beta_1$ is negative and significant). In contrast, if self-representation strengthens market concentration, then $\beta_5$ should be negative and significant.