

# MISQ Archivist

## Assessing the Unacquainted: Inferred Reviewer Personality and Review Helpfulness

*Angela Xia Liu, Yilin Li, and Sean Xin Xu*

---

### Abstract

This work examines the question of who will provide future helpful reviews in the context of online product reviews by synergistically using personality theories and data analytics. It trains a deep learning model to infer a reviewer's personality traits. This enables analyses to reveal the role of personality traits in review helpfulness among a large population of reviewers. Hypotheses are developed on how personality traits are associated with review helpfulness, followed by hypotheses testing that confirms that higher review helpfulness is related to higher openness, conscientiousness, extraversion, and agreeableness and to lower emotional stability. These results suggest the appropriateness of using these five personality traits as inputs for developing a model for predicting future review helpfulness. Based on an ensemble model using supervised classification algorithms, a predictive model is developed and shown to have superior performance. Theoretical and practical implications are discussed.

**Keywords:** Review helpfulness, personality, natural language processing, convolutional neural networks, machine learning, prediction