

Factors Affecting the Use of The Airbnb App with A Hybrid Approach Using Structural Equation Modelling and Artificial Neural Networks

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Abstract

Artificial Neural Networks (ANNs) provide numerous profits when complemented with the technology adoption models reported in the academic literature review. In this sense although Airbnb is one of the most widespread collaborative economy applications, there is a few research on the subject. Therefore, this study aims to analyses the factors affecting the use and adoption of the Airbnb mobile application with a hybrid approach using Structural Equation Modelling (SEM) and ANN. To do so, we use a highly tested consumer-based model such as the Unified Theory of Acceptance and Use Technology (UTAUT2) model, extended with two variables: trust and WOM. The research model is evaluated with data collected in two steps, through an online survey of a sample of 404 respondents. In the first step, structural equation modelling is used to determine predictors of Airbnb app acceptance. In the second step, neural network models are used to rank the relative influence of significant predictors obtained from SEM. The results have shown us that, relationships between constructs shown as non-significant in SEM, may show indicators of variables that are significant in app usage. Therefore, this hybrid approach enriches and improves the results when predicting the adoption of a technology such as the Airbnb app for tourist users.

Keywords: Airbnb, technology adoption, UTAUT2, trust, e-WOM, Artificial Neural Networks.