## Qualitative and Quantitative Analysis of Motivation Letters to Model Turnover in Non-Governmental Organization

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**Abstract :** Motivation regarded as a key factor of labor turnover, is especially important for volunteers working on an altruistic basis in NGO. Despite the motivational letter, candidate selection depends on the impression of the selection committee, which can be subject to human bias. We expect that structured and unstructured information provided in motivation letters could be used to improve candidate selection procedures. In our paper, we perform qualitative and quantitative analysis of 2280 motivation letters, create logistic regression, and build a decision tree to improve selection procedures. Our analysis showed that motivation factors are significant and enable human resources department to forecast labor turnover and provide extra information to demographic, professional and timing questions. In spite of the average level of accuracy the model demonstrates the selection procedures of company of under consideration can be improved. We also discuss interrelation between answers to open and closed motivation questions, recommend changes in motivational letter templates to ensure more relevant information about applicants and further steps to create more accurate model.

**Keywords :** decision trees, logistic regression, model, motivational letter, non-governmental organization, retention, turnover **Conference Title :** ICDMA 2018 : International Conference on Data Mining and Analysis

1

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