Research Article

Analysis of Employee Satisfaction using Artificial Neural Networks: A Case Study in the Information Technology Industry in Sri Lanka

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Abstract

Job satisfaction is vital to the prosperity of all industries, including the information technology (IT) sector. This research represents the pioneering attempt to employ Artificial Neural Networks (ANNs) for the purpose of examining the factors that affect job satisfaction among IT professionals in Sri Lanka. Data was gathered from a survey of 156 IT professionals and was analyzed statistically to identify seven factors that influence job satisfaction. An ANN was trained to predict job satisfaction using the extracted factors as inputs. The accuracy of the model in predicting job satisfaction was 94.64%. This suggests that ANNs have the potential to identify critical factors for IT employees and target interventions to increase their satisfaction. Additional research on the fitted ANN revealed that working conditions, family-friendly policies, and level of autonomy at work are crucial factors in determining a person's job satisfaction. Employers can use our findings to increase employee satisfaction by implementing appropriate policies. In addition, our ANN model can used to identify employees who are likely to leave and to provide them with customized interventions.

Keywords: Artificial neural networks, IT industry, Job satisfaction, Sri Lanka

1. Introduction

Job satisfaction plays a significant role in the overall well-being of employees. IT professionals often face high levels of stress due to tight deadlines, complex problem-solving, and the constant need to keep up with technological advancements. In this regard, satisfaction is critical for the long-term retention, dedication, and loyalty of IT professionals to the organization, as well as the establishment of an inspiring and productive work environment (Moro *et al., 2021*). Furthermore, the IT sector in Sri Lanka is expanding quickly, creating a significant need for skilled IT