

The Use of AI to Measure Gross National Happiness

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Abstract : This research attempts to identify an alternative approach to the measurement of Gross National Happiness (GNH). It uses artificial intelligence (AI), incorporating natural language processing (NLP) and sentiment analysis to measure GNH. We use 'off the shelf' NLP models responsible for the sentiment analysis of a sentence as a building block for this research. We constructed an algorithm using NLP models to derive a sentiment analysis score against sentences. This was then tested against a sample of 20 respondents to derive a sentiment analysis score. The scores generated resembled human responses. By utilising the MLP classifier, decision tree, linear model, and K-nearest neighbors, we were able to obtain a test accuracy of 89.97%, 54.63%, 52.13%, and 47.9%, respectively. This gave us the confidence to use the NLP models against sentences in websites to measure the GNH of a country.

Keywords : artificial intelligence, NLP, sentiment analysis, gross national happiness

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