Sentiments and Data Analysis of Social Media-Based Mental Health Hotline in Thailand by Machine Learning

Introduction

The Thai Mental Health Hotline has been utilized to help people with their mental health issues, bridging the gap in mental health access. However, no previous article has identified its drawbacks. Evidence from social media might reflect real world feedbacks and show substantial impediments to the provision of mental healthcare via telepsychiatry in Thailand.

Objective

Our research aimed to describe and analyze feedback on social media after receiving mental health services from the Thai Mental Health Hotline by using sentiment analysis, machine learning, visualization of data, and text analytics.

Method

Thai Mental Health Hotline comments were gathered manually from Facebook and Pantip, and automatically from Twitter by using related keywords. Data preparation and sentimental analysis were applied to interpret comments by using WangchanBERTa, the latest and largest Thai language NLP model. Exploratory Data Analysis was performed through Python and Excel to clean and investigate trends of feedback by time.

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The negative opinion was focused to identify causes of adverse outcomes. The overall data was visualized to discuss and conclude the outcome.

Result

From 555 comments gathered between 2013-2020, 52.40% were neutral, 35.05% were negative, and 12.55% were positive. The number of comments from social media was low from 2013 - 2019, and then rose extremely to climax (213 comments) during 2020. Focused on the complaints, most of them were about absent response issues (79.47% out of all negative response), service quality (13.16% out of all negative response), and others.

Conclusion

The peak of comment in 2020 may be influenced by Covid-19. Moreover, aside from neutral reactions, the data suggested that there were more negative than positive responses. To deal with negative feedbacks, including absent response and poor service quality, more psychologists should be provided, and more expenditure should be spent on training consultants.

Key Words

machine learning, mental health hotline, sentiment analysis, social media

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