**Sentiment Analysis Using Generative AI:**

**A Hands-On Exploration by Students**

In this blog post, I share insights from a case study where second-year undergraduate students explored GAI in a practical, comparative sentiment analysis exercise. This hands-on approach not only introduced students to the capabilities and limitations of GAI but also deepened their understanding of sentiment analysis and critical thinking.

**The Context: Sentiment Analysis in Marketing Education**

The exercise was conducted as part of the *Marketing and New Technology* module, where students are introduced to sentiment analysis as a tool to evaluate opinions and emotions expressed in text data. During workshops, students first manually coded a sample of tweets related to four airlines, calculated sentiment scores, and evaluated which airline had the most positive and most negative sentiment. This manual approach highlights how individual interpretations of sentiment can vary between coders. The exercise provided a foundation for discussing the subjective nature of manual sentiment coding and the potential biases inherent in manual analysis. In the second part of the workshop students run the tweets through a natural language processing software and compare results. We then critically discussed the advantages, as well as issues relating to both approaches.

**Incorporating Generative AI**

Shortly after GAI tools became widely available, I saw an opportunity to integrate them into this exercise. By introducing students to GAI in a structured and reflective way, I aimed to foster a constructive dialogue about its capabilities and shortcomings while reinforcing their learning about sentiment analysis.

In this updated exercise, students followed these steps:

1. Manual Sentiment Analysis: As in previous years, students manually coded tweets and calculated sentiment scores.
2. Natural Language Processing (NLP) Software: Students ran the same tweets through traditional NLP tools, comparing the results with their manual coding.
3. Generative AI Analysis: Students then used a GAI tool to conduct the sentiment analysis, trying different prompts, observing how GAI classified tweets and calculated sentiment.

The results from these three approaches were compared and critically discussed. This multi-method analysis added depth to the exercise, as students could see how different tools and approaches yielded varying outcomes. The inclusion of GAI highlighted its strengths in processing large datasets quickly and its limitations, such as occasional misinterpretations of sarcasm or because of limited context.

**Critical Discussions and Reflections**

Students debated the advantages and disadvantages of each method. By comparing their manual analysis with results from NLP software and GAI, students gained a clearer understanding of the trade-offs involved in using these tools. The discussions also provided a platform for exploring broader ethical considerations, such as transparency, accountability, and the risk of over-reliance on AI technologies. This exercise went beyond theoretical learning to equip students with practical skills. In the context of employability, it demonstrated how GAI could be used to run complex analyses efficiently, provided that the analyst understands the process in principle, which a valuable skill in many industries. Equally important, it encouraged students to critically evaluate the utility and limitations of GAI, fostering the kind of analytical mindset that employers value.

Having run this exercise four times with different cohorts, including students based in Singapore, I observed some interesting trends. While students’ familiarity with GAI has increased over time, the exercise continues to highlight the same core advantages and disadvantages of the tool. This consistency underscores the enduring relevance of teaching critical thinking alongside technical skills. Regardless of prior exposure to GAI, students consistently find value in exploring its potential and limitations within the structured context of the exercise. Integrating GAI into the sentiment analysis exercise has proven to be a powerful way to enhance students’ learning, aligning with broader trends in higher education to embrace emerging technologies and foster digital literacy.