References :

<https://de.wikipedia.org/wiki/Cohens_Kappa>

slides by Prof Mark Keane : <https://csmoodle.ucd.ie/moodle/pluginfile.php/99325/mod_resource/content/4/Lect9.aSentimentID.pdf>

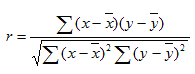
<https://en.wikipedia.org/wiki/Pearson_correlation_coefficient>

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | | Rater 3 | | | | |  | Sentiments | Positive | Negative | Neutral | Total | | Rater 1 | Positive | 1 | 0 | 1 | 2 | | Negative | 0 | 1 | 0 | 1 | | Neutral | 0 | 0 | 0 | 0 | | Total | 1 | 1 | 1 | 3 | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | Positive | Negative | Neutral | Total | | Agreement(na) | 1 | 1 | 0 | 2 | | Chance(ns) | 0.67 | 0.33 | 0 | 1.00 | | **Kappa** | 0.5 | | | |   **Kappa Value for Rater 1 and Rater 3** |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | | Rater 3 | | | | |  | Sentiments | Positive | Negative | Neutral | Total | | Rater 2 | Positive | 0 | 0 | 1 | 1 | | Negative | 0 | 1 | 0 | 1 | | Neutral | 1 | 0 | 0 | 1 | | Total | 1 | 1 | 1 | 3 | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | Positive | Negative | Neutral | Total | | Agreement(na) | 0 | 1 | 0 | 1 | | Chance(ns) | 0.33 | 0.33 | 0.33 | 1.00 | | **Kappa** | 0 | | | |   **Kappa Value for Rater 2 and Rater 3** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | | Rater 2 | | | | |  | Sentiments | Positive | Negative | Neutral | Total | | Rater 1 | Positive | 1 | 0 | 1 | 2 | | Negative | 0 | 1 | 0 | 1 | | Neutral | 0 | 0 | 0 | 0 | | Total | 1 | 1 | 1 | 3 | | **Kappa Value for Rater 1 and Rater 2**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | Positive | Negative | Neutral | Total | | Agreement(na) | 1 | 1 | 0 | 2 | | Chance(ns) | 0.67 | 0.33 | 0 | 1.00 | | **Kappa** | 0.5 | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Rater 1 | Rater 2 | Rater 3 |
| Review 1 | Positive | Neutral | Positive |
| Review 2 | Negative | Negative | Negative |
| Review 3 | Positive | Positive | Neutral |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Sentiment | Rater-1 | Rater-2 | Rater-3 | Mean |
| Review 1 | Positive | 1 | 0 | 1 | 0.67 |
|  | Negative | 0 | 0 | 0 | 0 |
|  | Neutral | 0 | 1 | 0 | 0.33 |
| Review 2 | Positive | 0 | 0 | 0 | 0 |
|  | Negative | 1 | 1 | 1 | 1 |
|  | Neutral | 0 | 0 | 0 | 0 |
| Review 3 | Positive | 1 | 1 | 0 | 0.67 |
|  | Negative | 0 | 0 | 0 | 0 |
|  | Neutral | 0 | 0 | 1 | 0.33 |

Q3)