Text Analytics: Media Monitoring on Food Security

Scope of Analysis

Media: Big News Network, Thailand News, Business Standard, The Times of India, I3investor, Manila Bulletin, Jakarta Post, Bernama, Business Mirror, The Sun Daily, FMT, The Malay Mail Online, First Post, Newsexplorer.Net, Financial

News Period: September - November 2022

Total Online News: 250

Keywords: "food security" OR "food insecurity" OR "food crisis" OR "keselamatan makanan" OR "krisis makanan") AND ("food" OR "makanan") NOT "covid"

Analysis Tools: R Studio

Analysis Findings

```
<<DocumentTermMatrix (documents: 250, terms: 9924)
Non-/sparse entries: 45055/2435945
Sparsity          : 98%
Maximal term length: 22
Weighting          : term frequency (tf)
```

Sparsity is the proportion of sparse entries in the entire matrix. The **maximal term length** is the number of terms in the longest document in corpus.

The **document-term matrix** is simply a matrix describing the **frequencies** of all terms occurring in the collection of text documents (corpus).

In this case, the analysis have 250 documents and 9,924 terms, in total. Among these entries, 45,055 entries are nonzero values, and the rest of the matrix (2,435,945 entries), is zero.

negative

positive

Contribution to sentiment

Sentiment Analysis
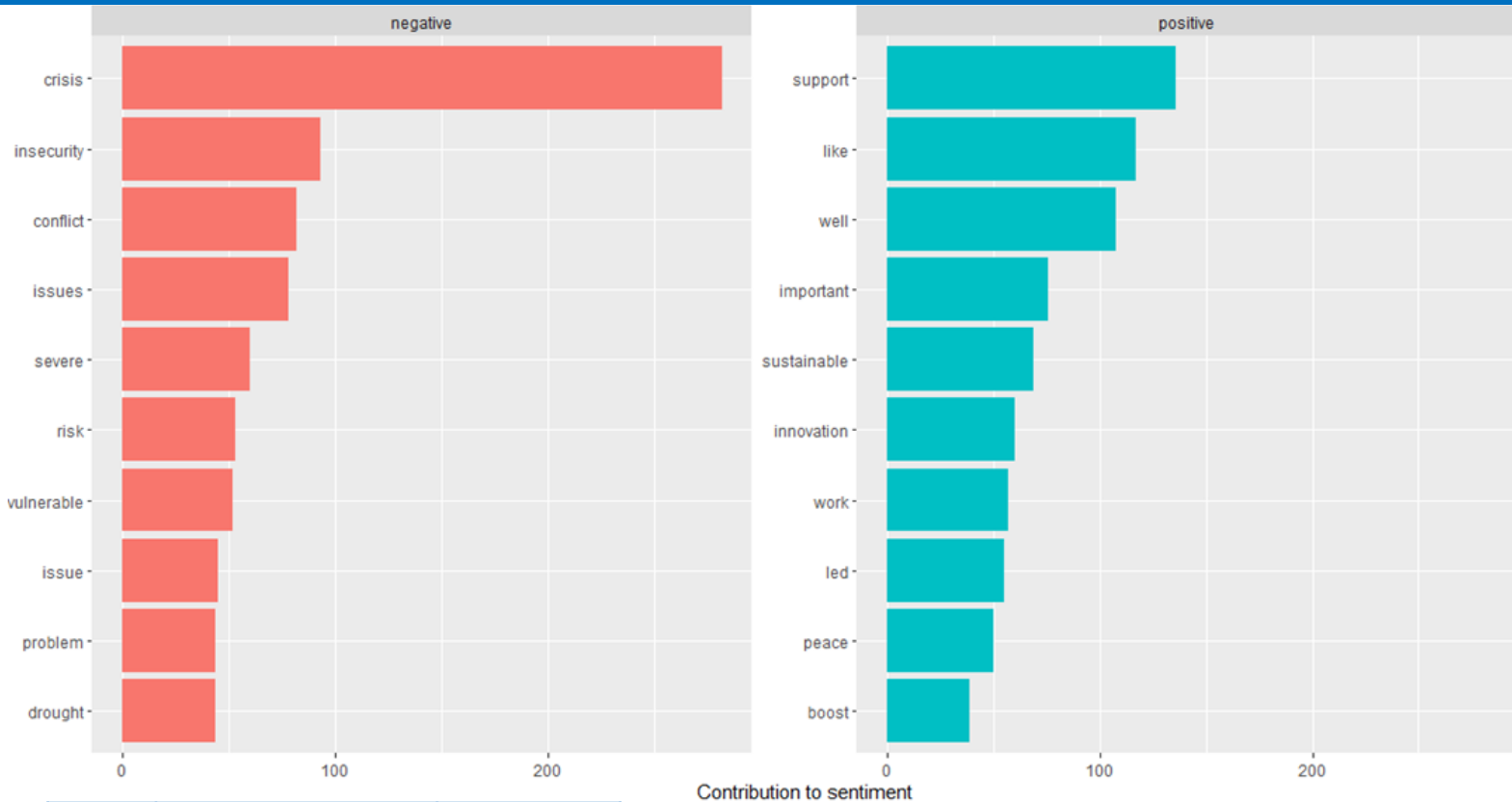
No.	Word	Frequency
1.	**crisis**	282
2.	**insecurity**	93
3.	**conflict**	82
4.	**issues**	78
5.	**severe**	60
6.	**support**	136
7.	**like**	117
8.	**well**	108
9.	**important**	76
10.	**sustainable**	69

Negative

Positive

@STATSMalaysia

#MyStatsDay #LeaveNoOneBehind

Cluster Analysis

Optimal number of clusters
Elbow method

CLUSPLOT(as.matrix(e))

These two components explain 88.15 % of the point variability.

Cluster Dendrogram

hclust (*, "ward.D")
e
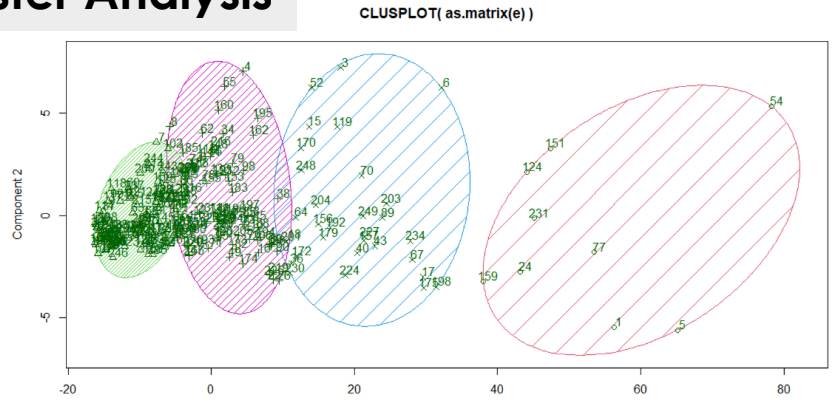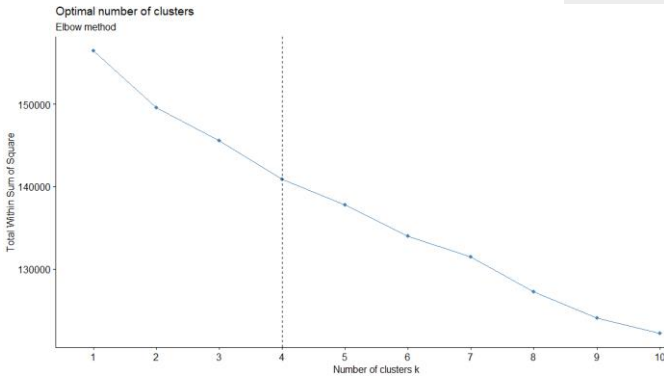
Text clusters are able to understand and group vast quantities of unstructured data. From the analysis this corpus were divided into four cluster. The cluster were similar to four Pillars of Food Security.
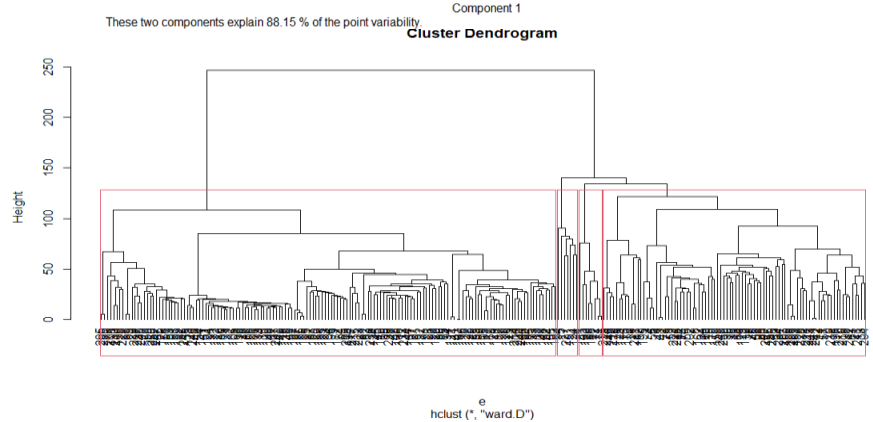
Pillars of Food Security

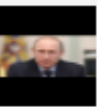| Dimensions	Determinants	Example Finding From Cluster Analysis
Availability	Domestic Production, Import Capacity, Food Stocks and Food Aid	Agrobank, Funding, Bakeries, Biotechnology
Accessibility	Income, purchasing power, own production, Transport & Market Infrastructure & Food Distribution	Bankruptcy, Currencies, Inflation, Traders
Utilization	Food Safety and Quality, Clean Water, Health & Sanitation, Care, Feeding & Health Seeking Practices	Health, Clean, Drug, Foodstuff, Wastewater
Stability	Weather Variability, Seasonality, Price Fluctuations, Political Factors & Economic Factors	Climate, Temperature, Lockdowns, Poverty

Analysis: Machine Learning Method

Influencer

Vladimir Putin — 661 statements	**Antonio Guterres** — 483 statements	**Joko Widodo** — 393 statements
Volodymyr Zelensky — 590 statements	**Subrahmanyam Jaishankar** — 428 statements	**Ismail Sabri Yaakob** — 362 statements
Joe Biden — 517 statements	**Ferdinand Marcos Jr** — 401 statements	**Narendra Modi** — 342 statements

Top influencer is calculated based on the number of statements of influencer exposed. The more statements exposed, the higher the chance of somebody being able to influence perception in a specific topic.

Top Person

Vladimir Putin — 387 news	**Antonio Guterres** — 227 news	**Joko Widodo** — 160 news
Joe Biden — 320 news	**Narendra Modi** — 189 news	**Ismail Sabri Yaakob** — 125 news
Volodymyr Zelensky — 260 news	**Xi Jinping** — 161 news	**Subrahmanyam Jaishankar** — 122 news

Top Person is calculated based on the number of news a person is mentioned in the content. It can also represent popularity. The more the name of somebody is mentioned in the media, the more popular he/she is.

Influencer vs Top Person

Individual who gives the most statements will be seen as the one controlling the narration in the media. Not everybody can be an influencer. Sometimes, a person's name is being mentioned, but no statement taken. Thus, the individual is just popular and not an influencer.
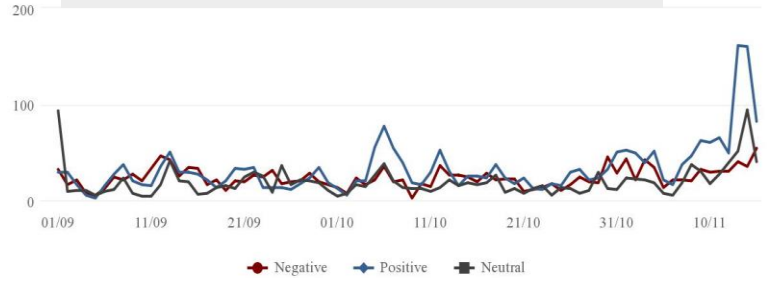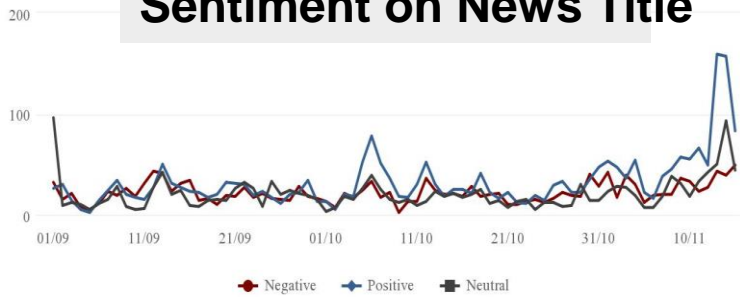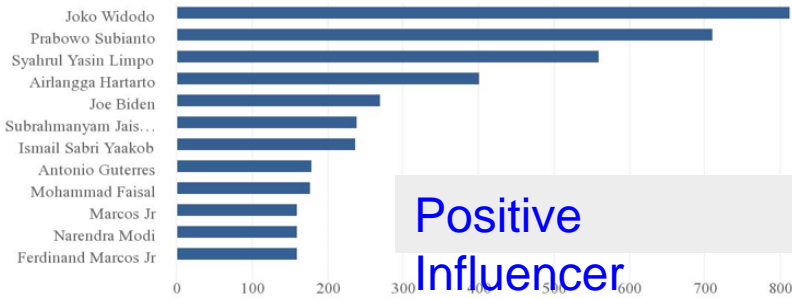
Sentiment Analysis

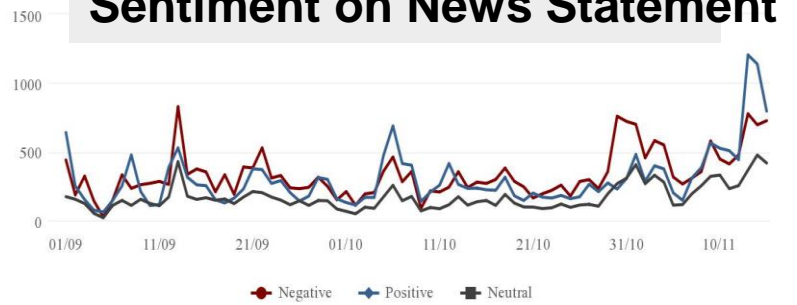
Positive   Negative   Neutral
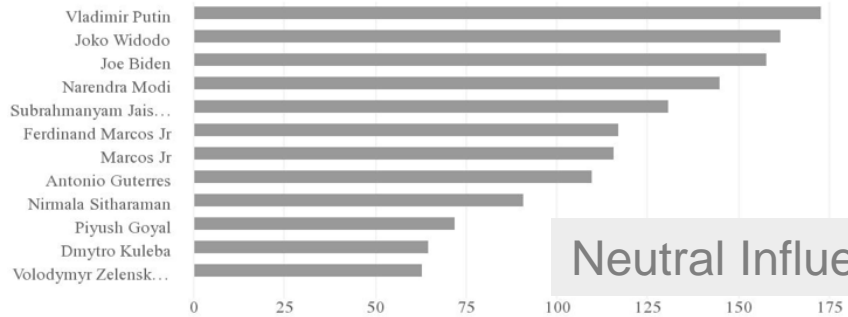
Sentiment on News Content
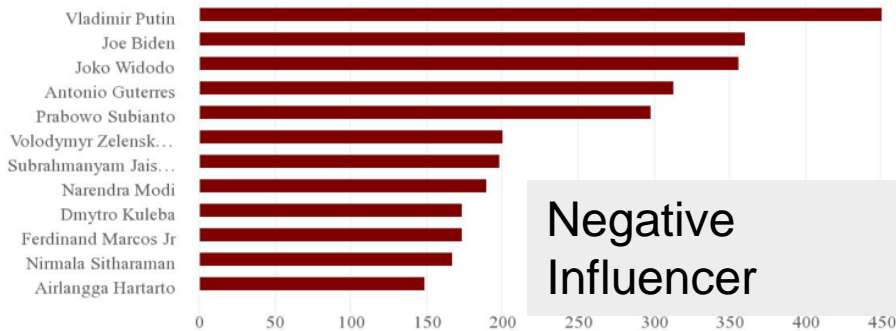

Sentiment on News Title

Sentiment on News Statement

Positive Influencer

Neutral Influencer

Negative Influencer

Disclaimer: The article is the initiative of DOSM officers. It does not meet the country's official statistics released standard. Therefore, the content of this article cannot be interpreted as DOSM's official statistics.