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Project Title: Exploring the Relationship between Science & Islam through Data Analysis

Documentation

Project Objective:

The project will contribute to a deeper understanding of the relationship between science and Islam, shedding light on potential synergies and exploring how scientific advancements align with Islamic principles.

Data Sources:

The data was collected from a variety of websites, the sources include:

- https://www.al-islam.org/authenticity-quran-shaykh-muslim-bhanji/some-brief-examples-scientific-data-quran
- https://mixdownmag.com.au/news/music/incredible-scientific-discoveries-about-music-in-2015/
- https://sites.udel.edu/msadelaware/six-major-beliefs-in-islam/
- https://muslimgirl.com/13-scientific-discoveries-mentioned-in-the-quran/
- https://ods.od.nih.gov/
- https://zamzam.com/blog/scientific-facts-in-quran/

Preprocessing Steps:

- Removal of null values
- Removal of duplicate values
- Source Name extracted from Source URL
- Removal of stop words & punctuations in Description column
- One-hot encoding on categorical columns

Analysis Techniques:

- Visualization: Using Bar Chart, Pie Chart, WordCloud, heatmap, histrogram
- Textual analysis: Using NLTK & Word Cloud for analysis of words in headings of all types of data

- Correlation analysis: Sentimental Analysis using VADER, Cosine Similarity

Visualization Tools:

- Pandas
- Seaborn
- Matplotlib
- Word Cloud

Stakeholders:

- Researchers
- Islamic scholars
- Individuals interested in the intersection of science and Islam.

Findings & Interpretations:

1. **Source Distribution:**
   - Around **47.1%** of the data is collected from the source **"www.al-islam.org"**. This indicates a major contributor to the dataset.

2. **Category Distribution:**
   - The majority of the content (around **29.4%**) falls under the categories **"Biology & Physiology"** and **"Natural Phenomena and Science."** This suggests a strong focus on these topics within the dataset.

3. **Entry Types:**
   - The **majority** of entries are categorized as both **"Scientific Discovery & Islamic Teaching."** This indicates a trend of connecting scientific discoveries with Islamic teachings.

4. **Frequent Words - Headings:**

- The word **"Music"** is **prominently** used in headings of entries categorized as **Scientific Discovery** only. This could imply a connection between music and scientific advancements but **not** between Islamic Teachings.
- The word "Belief" appears most frequently in headings of entries categorized as Islamic Teachings only. This points to a focus on faith-related topics.

5. Common Words - Headings:

- The usage of words related to **"Natural Phenomena & Science"** is common in **both** Scientific Discoveries and Islamic Teachings headings. This suggests a strong connection between these domains.

6. Frequent Words - Descriptions:

- **"Health"** is commonly used in descriptions of **Scientific Discoveries** only. This might indicate an emphasis on health-related advancements.
- The word **"God"** is frequently used in descriptions of **Islamic Teachings** only, emphasizing religious contexts.

7. Shared Frequent Words - Descriptions:

- The word **"Pain"** is the most common word used in **both** Scientific Discoveries and Islamic Teachings descriptions. This could suggest a shared theme.

8. Closest Match:

- The **closest matches** between **entries (index numbers 0 & 2, 14 & 2)** could indicate significant similarities in content or themes. This warrants a closer examination of these specific pairs of entries.

9. Sentiment Histogram:

- The **right-skewed histograms** for **both** Scientific Discovery and Islamic Teaching descriptions indicate that a majority of descriptions have high sentiment scores, indicating positive sentiments.
- The **more pronounced right-skew in the histogram for Islamic Teachings** suggests that descriptions in this category tend to have even higher sentiment scores, indicating a stronger positive sentiment.

Conclusion:

In analyzing the dataset containing descriptions of scientific discoveries and Islamic teachings, I have gained valuable insights into how these two domains intersect and differ. The dataset is sourced from various places, prominently from "www.al-islam.org". A considerable portion of the content falls under "Biology & Physiology" and "Natural Phenomena and Science", signifying a focus on these subjects.

A noteworthy trend is that most entries are tagged as both "Scientific Discovery & Islamic Teaching". The word choices in headings and descriptions offer glimpses into each category's themes, with "Music" and "Belief" being prominent in their respective domains.

The frequent use of terms related to "Natural Phenomena & Science" in both headings indicates a shared thematic thread between scientific exploration and Islamic teachings. However, distinct keywords such as "Health" and "God" underscore the unique angles each domain brings.

Sentiment analysis reveals a prevailing positive sentiment across both categories, particularly accentuated in Islamic teachings. The closest match analysis points to entries that share significant similarities, inviting further exploration of shared concepts.

In conclusion, the analysis highlights the connections and disparities between scientific discoveries and Islamic teachings. Both areas maintain positive tones and offer distinct perspectives. These findings serve as a foundational step for deeper discussions and research. Looking at these findings from a big picture perspective and encouraging cooperation between experts in science and Islamic teachings can help us better understand how these two areas connect and differ. This teamwork can give us a fuller understanding and a broader point of view.