

Data Dictionary :

Dimension Table: dim_users

Column Name	Data Type	Constraints
user_sk	Integer	Primary Key, Auto-increment
user_id	String	Not Null
username	String	Not Null
age	Integer	
email	String	Unique, Not Null
gender	String	
name	String	Not Null
date_created	Timestamp	Not Null

Dimension Table: dim_posts

Column Name	Data Type	Constraints
post_sk	Integer	Primary Key, Auto-increment
post_id	String	Not Null
post_text	String	Not Null
location	String	
post_timestamp	Timestamp	Not Null
tags	String	

Fact Table: fact_post_interactions

Column Name	Data Type	Constraints
post_sk	Integer	Foreign Key (References dim_posts.post_sk)
user_sk	Integer	Foreign Key (References dim_users.user_sk)
comment_user_sk	Integer	Foreign Key (References dim_users.user_sk), Nullable
shares	Integer	
angry	Integer	
haha	Integer	
like_count	Integer	
love	Integer	
sad	Integer	
wow	Integer	
comment_text	String	Nullable
comment_timestamp	Timestamp	Nullable

Data Mart: Content Performance Mart

Purpose: This data mart aggregates interaction metrics for posts, providing insights into content performance across various metrics.

Source Tables: dim_posts, fact_post_interactions

Refresh Frequency: Daily

Column Name	Data Type	Description
post_sk	Integer	Surrogate key from dim_posts
post_id	String	Original post ID
post_text	String	Text content of the post
post_timestamp	Timestamp	Time when the post was created
tags	String	Tags associated with the post
location	String	Location where the post was made
total_likes	Integer	Total number of likes
total_shares	Integer	Total number of shares
total_comments	Integer	Total number of comments
total_angry	Integer	Total count of 'angry' reactions
total_haha	Integer	Total count of 'haha' reactions
total_love	Integer	Total count of 'love' reactions
total_sad	Integer	Total count of 'sad' reactions
total_wow	Integer	Total count of 'wow' reactions
total_users_interacted	Integer	Total distinct users who interacted

Data Mart: Location Analysis Mart

Purpose: Provides aggregated engagement data by location to analyze user interactions based on geographical distribution

Source Tables: dim_posts, fact_post_interactions

Refresh Frequency: Weekly

Column Name	Data Type	Description
location	String	Location of the post, normalized
total_likes	Integer	Total likes for posts in the location
total_shares	Integer	Total shares for posts in the location
total_comments	Integer	Total comments for posts in the location
total_angry	Integer	Total 'angry' reactions in the location
total_haha	Integer	Total 'haha' reactions in the location
total_love	Integer	Total 'love' reactions in the location
total_sad	Integer	Total 'sad' reactions in the location
total_wow	Integer	Total 'wow' reactions in the location
total_users_in_location	Integer	Total distinct users posting from location

Data Mart: Tag Analysis Mart

Purpose: Analyzes post interactions by tags to determine the popularity and engagement of different content themes.

Source Tables: dim_posts, fact_post_interactions

Refresh Frequency: Monthly

Column Name	Data Type	Description
tags	String	Tags associated with posts
total_likes	Integer	Total likes on posts with the tag
total_shares	Integer	Total shares on posts with the tag
total_comments	Integer	Total comments on posts with the tag
total_angry	Integer	Total 'angry' reactions for the tag
total_haha	Integer	Total 'haha' reactions for the tag
total_love	Integer	Total 'love' reactions for the tag
total_sad	Integer	Total 'sad' reactions for the tag
total_wow	Integer	Total 'wow' reactions for the tag
total_posts_with_tag	Integer	Total posts tagged with specific tags
avg_likes_per_tag	Float	Average likes per post tagged with tag

Data Mart: User Engagement Mart

Purpose: Ranks users based on their engagement levels across various reaction metrics, useful for identifying key influencers and active users.

Source Tables: dim_users, fact_post_interactions

Refresh Frequency: Daily

Column Name	Data Type	Description
user_sk	Integer	Surrogate key from dim_users
username	String	Username of the user
total_shares	Integer	Total shares by the user
total_likes	Integer	Total likes by the user
total_comments	Integer	Total comments made by the user
total_angry	Integer	Total 'angry' reactions by the user
total_haha	Integer	Total 'haha' reactions by the user
total_love	Integer	Total 'love' reactions by the user
total_sad	Integer	Total 'sad' reactions by the user
total_wow	Integer	Total 'wow' reactions by the user
engagement_rank	Integer	Rank based on engagement metrics

ER Diagram

