Data Dictionary: Product-Led Growth Analytics Platform

Overview
This document provides comprehensive metadata and business context for the PLG Analytics Platform database schema. The schema is designed to track user engagement, feature adoption, and subscription metrics for SaaS products.

Dimension Tables

dim_users
Table Description: Stores core user information and attributes for all platform users

Column Name	Data Type	Description	Business Context	Example
user_id	INTEGER	Primary identifier for users	Used to link all user activities across the platform	12345
email	TEXT	User's email address	Primary contact method and login identifier	user@company.com
company_id	INTEGER	Reference to user's company	Links users to their organization for account management	789
user_role	TEXT	User's role in the platform	Determines feature access and permissions	"admin", "user"
signup_date	DATE	Date user created account	Used for cohort analysis and user lifecycle tracking	2024-01-15
acquisition_source	TEXT	How user discovered platform	Tracks marketing channel effectiveness	"google_ads", "referral"
user_segment	TEXT	User's assigned segment	Used for targeted feature rollouts and analysis	"enterprise", "growth"
is_admin	BOOLEAN	Administrator status	Identifies users with advanced permissions	true/false
last_login_date	DATE	Most recent login	Used for engagement and churn analysis	2024-02-15

dim_companies
Table Description: Contains organization-level information for account management

Column Name	Data Type	Description	Business Context	Example
company_id	INTEGER	Primary identifier for companies	Links all company-related data	789
company_name	TEXT	Organization name	Used for account management and reporting	"TechCorp"
industry	TEXT	Company's industry	Used for vertical-specific analysis	"Software"
employee_range	TEXT	Company size bracket	Important for segmentation and pricing	"100-500"
plan_tier	TEXT	Subscription level	Determines feature access and billing	"enterprise"

contract_start_date	DATE	Start of current contract	Used for renewal tracking	2024-01-01
contract_end_date	DATE	End of current contract	Used for churn risk analysis	2024-12-31
billing_frequency	TEXT	Payment schedule	Affects revenue recognition	"monthly", "annual"
account_manager_id	INTEGER	Assigned account manager	For customer success tracking	456

dim_features
Table Description: Catalog of platform features and their attributes
Column Name	Data Type	Description	Business Context	Example
feature_id	INTEGER	Primary identifier for features	Links feature usage data	123
feature_name	TEXT	Name of the feature	Used in UI and reporting	"AI Workflow Builder"
feature_category	TEXT	Feature classification	Groups similar features for analysis	"Automation"
release_date	DATE	When feature became available	Used for adoption analysis	2024-01-01
is_premium	BOOLEAN	Premium feature status	Determines if feature is paid	true/false
is_beta	BOOLEAN	Beta release status	Identifies features in testing	true/false
feature_complexity	TEXT	Complexity level	Used for user onboarding	"basic", "advanced"

dim_workflows
Table Description: Defines standard workflows available in the platform
Column Name	Data Type	Description	Business Context	Example
workflow_id	INTEGER	Primary identifier for workflows	Links workflow completion data	234
workflow_name	TEXT	Name of the workflow	Used in UI and reporting	"Data Import"
workflow_category	TEXT	Workflow classification	Groups similar workflows	"Data Management"
expected_completion_time	INTEGER	Expected duration (minutes)	Used for performance benchmarking	30
target_persona	TEXT	Intended user type	Used for persona analysis	"Data Analyst"
complexity_level	TEXT	Difficulty level	Used for user guidance	"intermediate"
prerequisites	TEXT	Required prior steps	Used for workflow planning	"API Configuration"

Fact Tables

fact_feature_usage
Table Description: Tracks detailed feature usage events
Column Name	Data Type	Description	Business Context	Example

feature_usage_id	INTEGER	Primary identifier for usage events	Uniquely identifies usage sessions	567
user_id	INTEGER	User who used feature	Links to user information	12345
feature_id	INTEGER	Feature being used	Links to feature information	123
session_id	TEXT	Unique session identifier	Groups related activities	"sess_abc123"
usage_timestamp	TIMESTAMP	When feature was used	Used for timing analysis	2024-02-15 10:00:00
usage_duration	INTEGER	Duration in seconds	Measures engagement depth	300
interaction_count	INTEGER	Number of interactions	Measures feature engagement	5
usage_success	BOOLEAN	Completion status	Tracks feature effectiveness	true/false
error_count	INTEGER	Number of errors	Identifies problematic features	0
device_type	TEXT	User's device	Used for platform analysis	"desktop"

fact_workflow_completions
Table Description: Records workflow completion attempts and outcomes
Column Name	Data Type	Description	Business Context	Example
completion_id	INTEGER	Primary identifier for completions	Uniquely identifies completion attempts	789
user_id	INTEGER	User attempting workflow	Links to user information	12345
workflow_id	INTEGER	Workflow being attempted	Links to workflow information	234
start_timestamp	TIMESTAMP	When workflow started	Used for duration analysis	2024-02-15 09:00:00
completion_timestamp	TIMESTAMP	When workflow ended	Used for duration analysis	2024-02-15 09:30:00
completion_status	TEXT	Final status	Tracks success rates	"completed", "abandoned"
step_count	INTEGER	Steps completed	Measures workflow efficiency	8
retry_count	INTEGER	Number of retries	Identifies difficult steps	2
satisfaction_score	INTEGER	User satisfaction (1-10)	Measures user experience	8

fact_user_engagement
Table Description: Captures user session details and engagement metrics
Column Name	Data Type	Description	Business Context	Example
engagement_id	INTEGER	Primary identifier for sessions	Uniquely identifies engagement sessions	901
user_id	INTEGER	User in session	Links to user information	12345
session_id	TEXT	Unique session identifier	Groups related activities	"sess_abc123"
session_start	TIMESTAMP	Session start time	Used for timing analysis	2024-02-15 09:00:00
session_end	TIMESTAMP	Session end time	Used for duration calculation	2024-02-15 10:00:00
page_views	INTEGER	Number of pages viewed	Measures browsing activity	15

feature_interactions	INTEGER	Feature interaction count	Measures feature engagement	25
time_in_app	INTEGER	Session duration (seconds)	Measures engagement depth	3600
actions_completed	INTEGER	Completed actions	Measures productivity	12
collaboration_count	INTEGER	Collaboration events	Measures team usage	3

fact_subscription_events
Table Description: Records subscription changes and their impact
Column Name	Data Type	Description	Business Context	Example
event_id	INTEGER	Primary identifier for events	Uniquely identifies subscription changes	345
company_id	INTEGER	Affected company	Links to company information	789
event_type	TEXT	Type of change	Categorizes subscription changes	"upgrade", "downgrade"
previous_plan	TEXT	Plan before change	Used for change analysis	"growth"
new_plan	TEXT	Plan after change	Used for change analysis	"enterprise"
change_reason	TEXT	Reason for change	Used for churn/upgrade analysis	"needed more features"
mrr_change	DECIMAL	MRR impact	Measures revenue impact	500.00
seats_changed	INTEGER	Seat count change	Tracks expansion/contraction	5
event_timestamp	TIMESTAMP	When change occurred	Used for timing analysis	2024-02-15 12:00:00

Common Analysis Patterns

1. User Adoption Analysis
   - Join dim_users with fact_feature_usage
   - Group by user_segment and feature_category
   - Calculate adoption rates over time

2. Revenue Impact Analysis
   - Join dim_companies with fact_subscription_events
   - Aggregate mrr_change by plan_tier and event_type
   - Track revenue growth patterns

3. Engagement Depth Analysis
   - Join fact_user_engagement with fact_feature_usage
   - Calculate average session duration and feature usage
   - Identify power users and at-risk accounts