Dimension Modelling Guide v1.0

This cheat sheet lists common dimension table types with examples across industries. Use it to quickly identify the right dimension pattern during data modelling, interviews, or design reviews. The focus is on choosing the correct dimension type, not on industry-specific schemas.

Part 1: The Design Process
Before you pick your tables, follow these four standard steps to ensure your model works correctly.

1. **Select the Business Process:** Decide what specific real-world event you are tracking (e.g., "Scanning an item at a checkout," not just "Sales").
2. **Declare the Grain:** Define exactly what one single row in your Fact table represents.
   - *Example:* "One row per line item on a customer receipt."
   - *Rule:* Do not mix grains. If your table tracks "Daily Totals," do not add rows for "Individual Transactions."
3. **Identify the Dimensions:** Choose the descriptive data (Who, What, Where, When) that gives context to the event. (Use the industry lists below for this).
4. **Identify the Facts:** Choose the numbers you want to measure (e.g., Quantity Sold, Price, Duration).

Part 2: Dimension Types Explained
The industry lists below use these terms. Here is what they mean and when to use them.

- **Conformed Dimensions:** These are shared tables that connect different parts of your business.
  - *Why use it:* It keeps metrics consistent across facts. If Sales and Inventory both use the same "Product" table, you can compare them easily.
- **Junk Dimensions:** A single table that collects many small "Yes/No" flags or status codes.
  - *Why use it:* It reduces the width of your main Fact table. Instead of 10 separate columns for "Paid Flag," "Ship Flag," etc., you link to one "Junk" table row that holds that specific combination.
- **Degenerate Dimensions:** Identify numbers that are important for tracking but do not need a full descriptive table (like an Invoice Number or Order ID).
  - *Why use it:* It preserves transactional identifiers without adding extra joins. These sit directly in the Fact table.
- **Role-Playing Dimensions:** A single dimension table used for multiple purposes in the same query.
  - *Why use it:* It allows one table to serve multiple date contexts. For example, you use the "Date" table once for "Order Date" and again for "Ship Date."

- **Shrunken (Subset) Dimensions:** A smaller version of a main dimension, containing only high-level rows.
  - *Why use it:* These support aggregated reporting efficiently. Use this when your Fact table is a monthly summary, not a daily transaction list.

Part 3: Technical Rules & Best Practices

Follow these technical rules to ensure the data is clean and reliable.

1. Naming Standards

- **Tables:** Use clear prefixes. Dim_Customer, Fact_Sales, Dim_Date.
- **Columns:** Use "Snake Case" (words_separated_by_underscores). Avoid spaces.
- **Dates:** Be specific. Use Order_Date or Ship_Date, never just Date.

2. Keys (Surrogate vs. Natural)

- **Natural Key:** The ID from the source system (e.g., Email Address, Customer ID from source system). *Do not join on this.*
- **Surrogate Key:** A new, meaningless integer (1, 2, 3...) generated by your data warehouse.
- **Rule:** Always create a Surrogate Key for your dimension tables. This protects your model if the source system changes its ID format.

3. Handling Nulls

- **Rule:** Never allow a blank (NULL) Foreign Key in a Fact Table. It will drop records when you join tables.
- **Fix:** Create a default "Unknown" row in every dimension table.
  - *ID:* -1
  - *Description:* "Unknown" or "N/A"
  - *Action:* If data is missing during loading, point it to this ID.

Part 4: Handling History (SCDs)

When data changes (like a customer moving to a new address), you must decide how to record it.

- **Type 1 (Overwrite):** You replace the old value with the new one.
  - *Result:* History is lost. Only current data exists.
  - *Use for:* Correcting spelling errors.
- **Type 2 (Add Row):** You create a new row for the new value and keep the old row.
  - *Result:* Full history is saved. You can see what the address was in 2020 vs. 2025.
  - *Use for:* Standard historical accuracy. This is the most common method.
- **Type 3 (Add Column):** You add a column to the existing row to show "Previous Value."
  - *Result:* You can see the current value and the one immediately before it.
  - *Use for:* When you only need to know the "last known" status, not the full history.

Part 5: Common Anti-Patterns (What NOT to Do)

- **Snowflaking:** Do not break a dimension into many small tables just to save space (e.g., separating "Brand" out of the "Product" table).

  Why it's bad: It forces users to join too many tables just to get basic descriptions. Keep dimensions "denormalized" (flat).

- **Fact-to-Fact Joins:** Never try to join two Fact tables directly together (e.g., joining Fact_Sales to Fact_Returns on Order ID).

  Why it's bad: These tables are huge. Joining them directly is slow and often produces wrong numbers. Instead, drill across using Conformed Dimensions.

- **Smart Keys:** Do not create keys that contain meaning (e.g., CUST-NY-001).

  Why it's bad: If the customer moves from NY (New York), you have to change their primary key, which breaks history. Always use integer Surrogate Keys (1, 2, 3...).

- **Mixed Grain:** Do not store different levels of detail in one table.

  Why it's bad: Storing "Daily Totals" and "Individual Transactions" in the same list leads to double-counting when you sum the column.

Part 6: The "Go-Live" Checklist

Before you deploy your model, verify these 5 items:

- **Null Check:** Did you replace all NULL keys with the "-1" default row?
- **Grain Check:** Is the grain defined in writing? (e.g., "1 row = 1 transaction").
- **Key Check:** Are all joins using integer Surrogate Keys, not text strings?
- **Type 2 Check:** Do your history tables have Valid_From and Valid_To dates?
- **Naming Check:** Are column names clear to a business user? (e.g., Revenue_USD, not just Amt).

Retail Industry

- **Conformed Dimensions:**

  Date, Customer, Product, Store, Supplier, Brand, Promotion, Currency, Payment Method, Sales Channel.

- **Junk Dimensions:**

  Order Status, Payment Flag, Rush Flag, Promo Flag, Gift Flag, Tax Applied Flag, Refund Flag, Fraud Flag, Backorder Flag, Subscription Flag.

- **Degenerate Dimensions:**

  Order ID, Transaction ID, Invoice Number, Receipt Number, Shipment ID, Return ID, Tracking Number, POS Bill Number, Authorization Code, Reference Number.

- **Role-Playing Dimensions:**

  Order Date, Sale Date, Invoice Date, Ship Date, Delivery Date, Return Date, Refund Date, Promotion Start Date, Promotion End Date, Price Effective Date.

- **Shrunken (Subset) Dimensions:**

  Product Category, Product Subcategory, Brand Summary, Store Region, Store Cluster, Monthly Product Summary, Quarterly Category Summary, Annual Brand Summary, Geographic Rollup, Promotion Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Day Name, Month Name, Holiday Indicator, Fiscal Calendar, Time Zone, Unit of Measure, Tax Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Customer Phone Number, Customer Email, Loyalty Tier, Product Price, Product Description, Supplier Contact, Store Manager, Employee Role, Promotion Terms.

Banking / Financial Services

- **Conformed Dimensions:**

  Date, Customer, Account, Product, Branch, Channel, Currency, Geography, Relationship Manager, Legal Entity.

- **Junk Dimensions:**

  Account Status, Transaction Status, Debit Credit Flag, Reversal Flag, Fee Applied Flag, AML Flag, KYC Flag, Dormant Flag, High Value Flag, Exception Flag.

- **Degenerate Dimensions:**

  Transaction ID, Reference Number, UTR Number, Check Number, Authorization Code, Batch ID, Journal Entry ID, Payment Instruction ID, SWIFT Message ID, Case ID.

- **Role-Playing Dimensions:**

  Transaction Date, Posting Date, Value Date, Settlement Date, Due Date, Reversal Date, Account Open Date, Account Close Date, Loan Start Date, Loan End Date.

- **Shrunken (Subset) Dimensions:**

  Account Type Summary, Customer Segment, Product Group, Branch Region, Risk Category Summary, Monthly Account Snapshot, Quarterly Portfolio Summary, Annual Customer Summary, Geography Rollup, Channel Summary.

- **Static Dimensions:**

  Currency Code, Country Code, Bank Code, Branch Code, Fiscal Calendar, Holiday Calendar, Time Zone, Interest Basis, Day Count Convention, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Customer Contact Details, Risk Rating, KYC Status, Account Limits, Interest Rate, Product Terms, Relationship Manager Assignment, Branch Classification, Credit Score Band.

Healthcare

- **Conformed Dimensions:**

  Patient, Provider, Facility, Department, Service, Diagnosis, Procedure, Payer, Plan, Date.

- **Junk Dimensions:**

  Visit Status, Admission Flag, Emergency Flag, Referral Flag, Consent Flag, Insurance Verified Flag, Readmission Flag, Follow-up Required Flag, Billing Hold Flag, Exception Flag.

- **Degenerate Dimensions:**

  Encounter ID, Visit ID, Claim ID, Authorization Number, Referral Number, Prescription Number, Lab Order ID, Sample ID, Case Number, External Reference ID.

- **Role-Playing Dimensions:**

  Admission Date, Discharge Date, Visit Date, Procedure Date, Diagnosis Date, Order Date, Result Date, Claim Submission Date, Claim Settlement Date, Follow-up Date.

- **Shrunken (Subset) Dimensions:**

  Service Category, Diagnosis Group, Procedure Group, Facility Region, Provider Specialty Summary, Monthly Visit Summary, Quarterly Revenue Summary, Annual Patient Summary, Geography Rollup, Payer Summary.

- **Static Dimensions:**

  ICD Code, CPT Code, DRG Code, Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Gender Code.

- **Slowly Changing Dimensions (SCDs):**

  Patient Address, Patient Contact Details, Insurance Coverage, Plan Terms, Provider Specialty, Facility Classification, Department Assignment, Care Program Enrollment, Risk Stratification Level, Care Manager Assignment.

Insurance

- **Conformed Dimensions:**

  Policyholder, Policy, Product, Coverage, Agent, Broker, Insurer, Geography, Channel, Date.

- **Junk Dimensions:**

  Policy Status, Claim Status, Renewal Flag, Lapse Flag, Endorsement Flag, Premium Paid Flag, Fraud Suspected Flag, Underwriting Exception Flag, Co-Pay Flag, Deductible Applied Flag.

- **Degenerate Dimensions:**

  Policy Number, Claim Number, Endorsement Number, Proposal ID, Quote ID, Receipt Number, Payment Reference ID, Case ID, Inspection ID, External Reference ID.

- **Role-Playing Dimensions:**

  Policy Start Date, Policy End Date, Issue Date, Renewal Date, Cancellation Date, Claim Reported Date, Claim Approved Date, Claim Settled Date, Payment Date, Endorsement Effective Date.

- **Shrunken (Subset) Dimensions:**

  Product Line Summary, Coverage Group, Risk Category Summary, Agent Region, Monthly Premium Summary, Quarterly Claims Summary, Annual Portfolio Summary, Geography Rollup, Channel Summary, Policy Type Summary.

- **Static Dimensions:**

  Coverage Code, Risk Code, Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Regulatory Code, Rating Factor Code.

- **Slowly Changing Dimensions (SCDs):**

  Policyholder Address, Contact Details, Risk Rating, Coverage Limits, Premium Amount, Deductible Amount, Agent Assignment, Underwriting Terms, Product Rules, Commission Structure.

SaaS / Software Products

- **Conformed Dimensions:**

  Customer, Account, User, Product, Plan, Feature, Subscription, Region, Channel, Date.

- **Junk Dimensions:**

  Account Status, Subscription Status, Trial Flag, Free Tier Flag, Upgrade Flag, Downgrade Flag, Cancellation Flag, Payment Failure Flag, Overusage Flag, Compliance Flag.

- **Degenerate Dimensions:**

  Subscription ID, Invoice ID, Payment Transaction ID, Session ID, API Request ID, Support Ticket ID, Incident ID, Usage Event ID, Contract Number, External Reference ID.

- **Role-Playing Dimensions:**

  Signup Date, Activation Date, Subscription Start Date, Subscription End Date, Renewal Date, Cancellation Date, Invoice Date, Payment Date, Usage Event Date, Churn Date.

- **Shrunken (Subset) Dimensions:**

  Plan Tier Summary, Feature Group, Customer Segment, Region Rollup, Monthly Usage Summary, Quarterly Revenue Summary, Annual Customer Summary, Geography Rollup, Channel Summary, Product Line Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, API Method Code, HTTP Status Code, License Type Code, Compliance Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Billing Details, Subscription Plan, Pricing Terms, Feature Entitlements, Account Owner, Region Assignment, Contract Terms, Compliance Status, Customer Segment.

Manufacturing

- **Conformed Dimensions:**

  Product, Component, BOM, Plant, Production Line, Work Center, Supplier, Customer, Geography, Date.

- **Junk Dimensions:**

  Production Status, Quality Check Flag, Rework Flag, Scrap Flag, Machine Downtime Flag, Rush Order Flag, Safety Incident Flag, Inspection Required Flag, Compliance Flag, Exception Flag.

- **Degenerate Dimensions:**

  Production Order ID, Work Order ID, Batch Number, Lot Number, Serial Number, Inspection ID, Maintenance Ticket ID, Shipment ID, Delivery Note Number, External Reference ID.

- **Role-Playing Dimensions:**

  Order Date, Production Start Date, Production End Date, Inspection Date, Rework Date, Shipment Date, Delivery Date, Maintenance Date, Downtime Start Date, Downtime End Date.

- **Shrunken (Subset) Dimensions:**

  Product Family, Component Group, Plant Region, Line Summary, Monthly Production Summary, Quarterly Yield Summary, Annual Output Summary, Geography Rollup, Supplier Category Summary, Customer Segment Summary.

- **Static Dimensions:**

  Unit of Measure, Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Machine Type Code, Defect Code, Safety Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Product Specification, BOM Structure, Supplier Details, Plant Classification, Line Capacity, Quality Thresholds, Cost Rates, Routing Rules, Maintenance Schedule, Compliance Certification.

Telecommunications

- **Conformed Dimensions:**

  Subscriber, Customer, Account, Service, Plan, Device, Network, Cell Tower, Geography, Date.

- **Junk Dimensions:**

  Service Status, Roaming Flag, International Call Flag, Data Overage Flag, Fair Usage Flag, Payment Failure Flag, Suspension Flag, Fraud Flag, Complaint Flag, Exception Flag.

- **Degenerate Dimensions:**

  Call Detail Record ID, Session ID, Usage Event ID, Ticket ID, Complaint ID, SIM Number, IMEI Number, Transaction ID, Invoice Number, External Reference ID.

- **Role-Playing Dimensions:**

  Activation Date, Deactivation Date, Usage Date, Call Start Date, Call End Date, Billing Date, Invoice Date, Payment Date, Complaint Raised Date, Complaint Closed Date.

- **Shrunken (Subset) Dimensions:**

  Plan Category Summary, Service Type Summary, Device Category, Network Region, Monthly Usage Summary, Quarterly Revenue Summary, Annual Subscriber Summary, Geography Rollup, Channel Summary, Customer Segment Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Network Type Code, Call Type Code, Usage Unit Code, Regulatory Code, Technology Standard Code.

- **Slowly Changing Dimensions (SCDs):**

  Subscriber Address, Plan Assignment, Device Ownership, Network Assignment, Credit Limit, Risk Score, Contract Terms, Customer Segment, Roaming Eligibility, Service Priority.

Logistics / Supply Chain

- **Conformed Dimensions:**

  Shipment, Order, Customer, Supplier, Carrier, Vehicle, Route, Warehouse, Geography, Date.

- **Junk Dimensions:**

  Shipment Status, Delivery Attempt Flag, Partial Shipment Flag, Express Flag, Temperature Controlled Flag, Customs Hold Flag, Damage Flag, Delay Flag, Proof of Delivery Flag, Exception Flag.

- **Degenerate Dimensions:**

  Shipment ID, Tracking Number, Order Number, Waybill Number, Container Number, Booking Reference ID, Manifest ID, Proof of Delivery ID, Invoice Number, External Reference ID.

- **Role-Playing Dimensions:**

  Order Date, Pickup Date, Dispatch Date, In-Transit Date, Arrival Date, Delivery Date, Exception Date, Return Date, Customs Clearance Date, Invoice Date.

- **Shrunken (Subset) Dimensions:**

  Route Summary, Carrier Category, Warehouse Region, Shipment Type Summary, Monthly Shipment Summary, Quarterly Cost Summary, Annual Volume Summary, Geography Rollup, Customer Segment Summary, Service Level Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Incoterms Code, Transport Mode Code, Packaging Type Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Supplier Details, Carrier Contract Terms, Route Definition, Warehouse Classification, Service Level Agreement, Cost Rates, Vehicle Assignment, Driver Assignment, Compliance Certification.

Education

- **Conformed Dimensions:**

  Student, Institution, Campus, Department, Program, Course, Instructor, Term, Geography, Date.

- **Junk Dimensions:**

  Enrollment Status, Full-Time Flag, Part-Time Flag, Scholarship Flag, Fee Paid Flag, Attendance Required Flag, Exam Eligible Flag, Disciplinary Flag, Online Course Flag, Exception Flag.

- **Degenerate Dimensions:**

  Student ID, Enrollment ID, Application ID, Admission Number, Registration Number, Exam Registration ID, Fee Receipt Number, Certificate Number, Transcript Request ID, External Reference ID.

- **Role-Playing Dimensions:**

  Application Date, Admission Date, Enrollment Date, Course Start Date, Course End Date, Exam Date, Result Date, Graduation Date, Fee Payment Date, Withdrawal Date.

- **Shrunken (Subset) Dimensions:**

  Program Category Summary, Course Level Summary, Department Summary, Campus Region, Term Summary, Monthly Enrollment Summary, Annual Graduation Summary, Geography Rollup, Student Segment Summary, Delivery Mode Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Academic Calendar, Holiday Indicator, Time Zone, Grading Scale Code, Degree Type Code, Certification Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Student Address, Contact Details, Program Assignment, Major / Specialization, Advisor Assignment, Scholarship Status, Fee Structure, Instructor Assignment, Department Classification, Accreditation Status.

Energy / Utilities

- **Conformed Dimensions:**

  Customer, Account, Meter, Service, Tariff, Plant, Grid, Fuel Type, Geography, Date.

- **Junk Dimensions:**

  Service Status, Outage Flag, Planned Maintenance Flag, Peak Usage Flag, Estimated Reading Flag, Billing Adjustment Flag, Late Payment Flag, Disconnection Flag, Safety Incident Flag, Exception Flag.

- **Degenerate Dimensions:**

  Meter Reading ID, Consumption Event ID, Bill Number, Payment Transaction ID, Outage Ticket ID, Work Order ID, Service Request ID, Adjustment Reference ID, Inspection ID, External Reference ID.

- **Role-Playing Dimensions:**

  Service Start Date, Service End Date, Meter Read Date, Bill Issue Date, Bill Due Date, Payment Date, Outage Start Date, Outage End Date, Maintenance Date, Inspection Date.

- **Shrunken (Subset) Dimensions:**

  Tariff Category Summary, Fuel Type Summary, Plant Region, Grid Zone Summary, Monthly Consumption Summary, Quarterly Revenue Summary, Annual Demand Summary, Geography Rollup, Customer Segment Summary, Service Type Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Voltage Level Code, Energy Type Code, Regulatory Code, Safety Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Tariff Assignment, Meter Configuration, Service Capacity, Rate Structure, Plant Classification, Grid Assignment, Contract Terms, Risk Category, Compliance Certification.

Real Estate

- **Conformed Dimensions:**

  Property, Unit, Building, Project, Owner, Tenant, Broker, Geography, Channel, Date.

- **Junk Dimensions:**

  Property Status, Occupancy Flag, Furnished Flag, Rental Flag, Sale Flag, Maintenance Required Flag, Legal Hold Flag, Price Negotiable Flag, Premium Listing Flag, Exception Flag.

- **Degenerate Dimensions:**

  Property ID, Unit ID, Listing ID, Agreement Number, Lease Number, Sale Deed Number, Registration ID, Payment Reference ID, Inspection ID, External Reference ID.

- **Role-Playing Dimensions:**

  Listing Date, Availability Date, Lease Start Date, Lease End Date, Sale Date, Possession Date, Inspection Date, Maintenance Date, Payment Due Date, Payment Date.

- **Shrunken (Subset) Dimensions:**

  Property Type Summary, Project Summary, Building Category, City Region, Monthly Occupancy Summary, Quarterly Revenue Summary, Annual Portfolio Summary, Geography Rollup, Tenant Segment Summary, Channel Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Property Type Code, Zoning Code, Legal Category Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Owner Details, Tenant Details, Rental Rate, Sale Price, Lease Terms, Property Classification, Broker Assignment, Maintenance Contract, Tax Assessment, Compliance Status.

Travel / Hospitality

- **Conformed Dimensions:**

  Guest, Booking, Property, Room, Rate Plan, Package, Channel, Partner, Geography, Date.

- **Junk Dimensions:**

  Booking Status, Cancellation Flag, No-Show Flag, Refund Flag, Prepaid Flag, Upgrade Flag, Overbooking Flag, Loyalty Applied Flag, Special Request Flag, Exception Flag.

- **Degenerate Dimensions:**

  Booking ID, Reservation Number, Confirmation Code, Voucher Number, Invoice Number, Payment Transaction ID, Ticket Number, Folio Number, Complaint ID, External Reference ID.

- **Role-Playing Dimensions:**

  Booking Date, Check-In Date, Check-Out Date, Cancellation Date, Refund Date, Payment Date, Stay Date, Modification Date, Service Date, Review Date.

- **Shrunken (Subset) Dimensions:**

  Property Type Summary, Room Category Summary, Rate Plan Summary, Destination Region, Monthly Occupancy Summary, Quarterly Revenue Summary, Annual Guest Summary, Geography Rollup, Channel Summary, Partner Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Meal Plan Code, Room Type Code, Service Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Guest Profile, Contact Details, Loyalty Tier, Rate Plan Assignment, Room Attributes, Property Classification, Partner Contract Terms, Pricing Rules, Tax Rules, Compliance Status.

Pharmaceuticals / Life Sciences

- **Conformed Dimensions:**

  Drug, Product, Molecule, Manufacturer, Supplier, Distributor, Healthcare Provider, Market, Geography, Date.

- **Junk Dimensions:**

  Approval Status, Prescription Required Flag, Controlled Substance Flag, Cold Chain Flag, Recall Flag, Adverse Event Flag, Trial Product Flag, Generic Flag, Substitute Allowed Flag, Exception Flag.

- **Degenerate Dimensions:**

  Batch Number, Lot Number, Serial Number, Prescription ID, Shipment ID, Recall ID, Adverse Event Case ID, Trial Subject ID, Regulatory Submission ID, External Reference ID.

- **Role-Playing Dimensions:**

  Manufacture Date, Expiry Date, Release Date, Shipment Date, Receipt Date, Prescription Date, Dispense Date, Recall Date, Trial Start Date, Trial End Date.

- **Shrunken (Subset) Dimensions:**

  Therapeutic Class Summary, Drug Category Summary, Market Region, Monthly Sales Summary, Quarterly Distribution Summary, Annual Portfolio Summary, Geography Rollup, Channel Summary, Provider Segment Summary, Product Line Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Dosage Form Code, Route of Administration Code, Regulatory Code, Safety Classification Code.

- **Slowly Changing Dimensions (SCDs):**

  Product Labeling, Formulation Details, Pricing Terms, Supplier Details, Manufacturer Assignment, Regulatory Status, Provider Classification, Market Authorization, Safety Profile, Compliance Certification.

Media / Entertainment

- **Conformed Dimensions:**

  Content, Title, Genre, Franchise, Platform, Channel, Subscriber, Partner, Geography, Date.

- **Junk Dimensions:**

  Content Status, Age Restriction Flag, Premium Flag, Ad-Supported Flag, Download Allowed Flag, DRM Flag, Geo-Blocked Flag, Exclusive Flag, Trial Access Flag, Exception Flag.

- **Degenerate Dimensions:**

  Content ID, Episode ID, Asset ID, Stream Session ID, Playback Event ID, Ad Impression ID, Campaign ID, Contract ID, Invoice Number, External Reference ID.

- **Role-Playing Dimensions:**

  Release Date, Publish Date, Premiere Date, Availability Start Date, Availability End Date, Stream Start Date, Stream End Date, Download Date, Ad Serve Date, Contract Effective Date.

- **Shrunken (Subset) Dimensions:**

  Genre Summary, Franchise Summary, Platform Summary, Channel Summary, Monthly Viewership Summary, Quarterly Revenue Summary, Annual Subscriber Summary, Geography Rollup, Audience Segment Summary, Content Type Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Rating Code, Language Code, Ad Format Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Content Metadata, Rights Window, Licensing Terms, Platform Assignment, Partner Contract Terms, Pricing Rules, Audience Classification, Monetization Model, Compliance Status, Distribution Territory.

Human Resources / Workforce

- **Conformed Dimensions:**

  Employee, Candidate, Role, Job Family, Department, Business Unit, Location, Manager, Employment Type, Date.

- **Junk Dimensions:**

  Employment Status, Active Flag, Probation Flag, Remote Work Flag, Contract Flag, Background Check Flag, Visa Required Flag, Payroll Hold Flag, Compliance Flag, Exception Flag.

- **Degenerate Dimensions:**

  Employee ID, Candidate ID, Application ID, Offer Letter ID, Contract ID, Payroll Transaction ID, Timesheet ID, Leave Request ID, Exit Case ID, External Reference ID.

- **Role-Playing Dimensions:**

  Hire Date, Joining Date, Probation End Date, Confirmation Date, Promotion Date, Transfer Date, Leave Start Date, Leave End Date, Exit Date, Payroll Date.

- **Shrunken (Subset) Dimensions:**

  Job Level Summary, Department Summary, Business Unit Summary, Location Region, Monthly Headcount Summary, Quarterly Attrition Summary, Annual Workforce Summary, Geography Rollup, Employment Type Summary, Talent Segment Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Job Grade Code, Leave Type Code, Payroll Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Employee Address, Contact Details, Role Assignment, Manager Assignment, Compensation Band, Employment Type, Location Assignment, Performance Rating, Skill Profile, Compliance Status.

Automotive

- **Conformed Dimensions:**

  Vehicle, Model, Variant, Brand, Dealer, Customer, Supplier, Geography, Channel, Date.

- **Junk Dimensions:**

  Vehicle Status, Test Drive Flag, Warranty Active Flag, Finance Opted Flag, Insurance Opted Flag, Recall Flag, Service Due Flag, Exchange Flag, Delivery Delayed Flag, Exception Flag.

- **Degenerate Dimensions:**

  Vehicle Identification Number, Order ID, Booking ID, Invoice Number, Service Job Card ID, Warranty Claim ID, Recall Case ID, Registration Number, Delivery Note ID, External Reference ID.

- **Role-Playing Dimensions:**

  Booking Date, Order Date, Production Date, Dispatch Date, Delivery Date, Registration Date, Warranty Start Date, Warranty End Date, Service Date, Recall Date.

- **Shrunken (Subset) Dimensions:**

  Vehicle Segment Summary, Model Family Summary, Dealer Region, Monthly Sales Summary, Quarterly Production Summary, Annual Portfolio Summary, Geography Rollup, Customer Segment Summary, Channel Summary, Service Category Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Fuel Type Code, Emission Norm Code, Vehicle Type Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Customer Address, Dealer Assignment, Vehicle Ownership, Pricing Terms, Warranty Coverage, Insurance Details, Supplier Details, Service Contract Terms, Compliance Status, Risk Category.

Food & Beverage

- **Conformed Dimensions:**

  Product, Ingredient, Recipe, Brand, Supplier, Customer, Outlet, Channel, Geography, Date.

- **Junk Dimensions:**

  Product Status, Perishable Flag, Organic Flag, Allergen Flag, Temperature Controlled Flag, Recall Flag, Expiry Risk Flag, Promotion Applied Flag, Quality Hold Flag, Exception Flag.

- **Degenerate Dimensions:**

  Batch Number, Lot Number, Production Order ID, Quality Inspection ID, Recall Case ID, Shipment ID, Invoice Number, POS Receipt Number, Payment Reference ID, External Reference ID.

- **Role-Playing Dimensions:**

  Production Date, Packaging Date, Expiry Date, Dispatch Date, Delivery Date, Sale Date, Promotion Start Date, Promotion End Date, Recall Date, Inspection Date.

- **Shrunken (Subset) Dimensions:**

  Product Category Summary, Ingredient Group, Brand Summary, Outlet Region, Monthly Sales Summary, Quarterly Production Summary, Annual Portfolio Summary, Geography Rollup, Channel Summary, Customer Segment Summary.

- **Static Dimensions:**

  Country Code, Currency Code, Calendar Date, Holiday Indicator, Time Zone, Unit of Measure, Food Category Code, Allergen Code, Storage Type Code, Regulatory Code.

- **Slowly Changing Dimensions (SCDs):**

  Product Formulation, Ingredient Sourcing, Supplier Details, Pricing Terms, Shelf Life Rules, Outlet Classification, Brand Ownership, Quality Standards, Compliance Status, Risk Category.

Dimensional Modeling | Cheat Sheet

Order of thinking

Process → Grain → Dimensions → Facts

Never mix grains

One fact table = one grain

Dimension types

- Conformed – shared across facts

- Junk – flags grouped together

- Degenerate – IDs in fact

- Role-playing – same dimension, multiple roles

- Shrunken – subset for aggregates

- Static – rarely changes

- SCD – tracks change over time

SCD types

- Type 0 – fixed

- Type 1 – overwrite

- Type 2 – new row (default)

- Type 3 – limited history

Keys

- Use surrogate keys in dimensions

- Never join on natural keys

Null handling

- No NULL foreign keys in facts

- Use "Unknown" row (-1)

Hard rules

- No fact-to-fact joins

- No snowflaking

- Define grain in writing

Red flags

- Mixed grain

- Smart keys

- Too many flags in fact

- Inconsistent metrics

About me

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Note – This is just the initial draft. In case you find any errors or want to share feedback, please contact me.