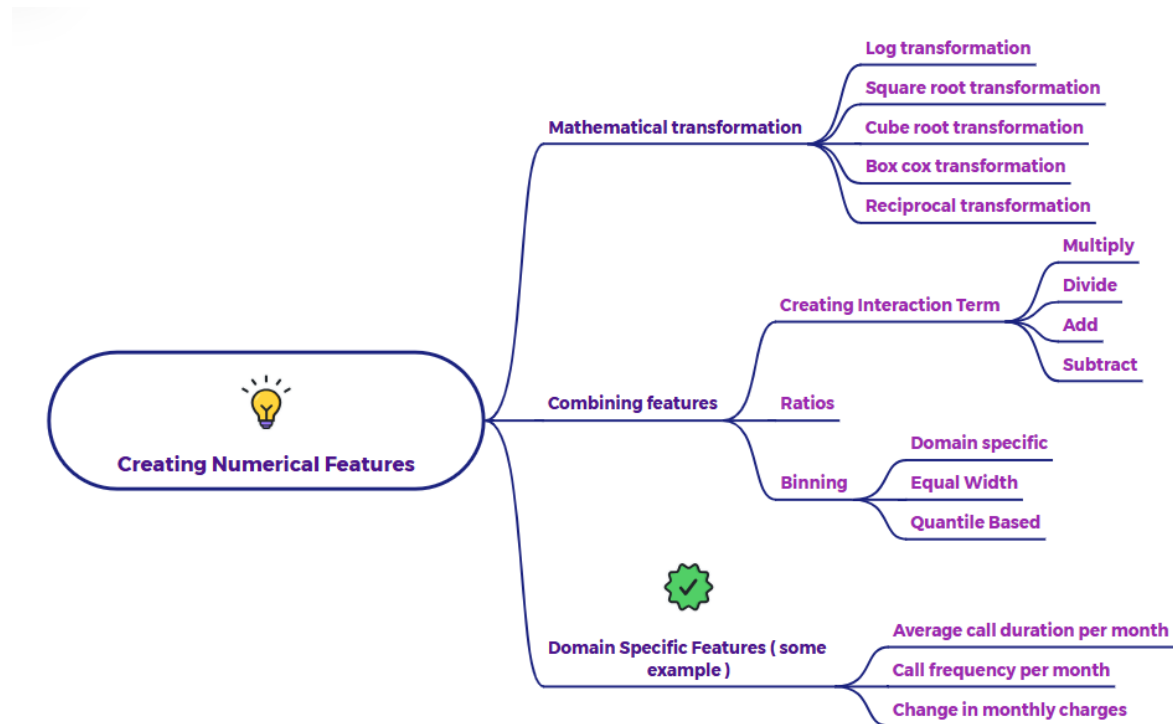
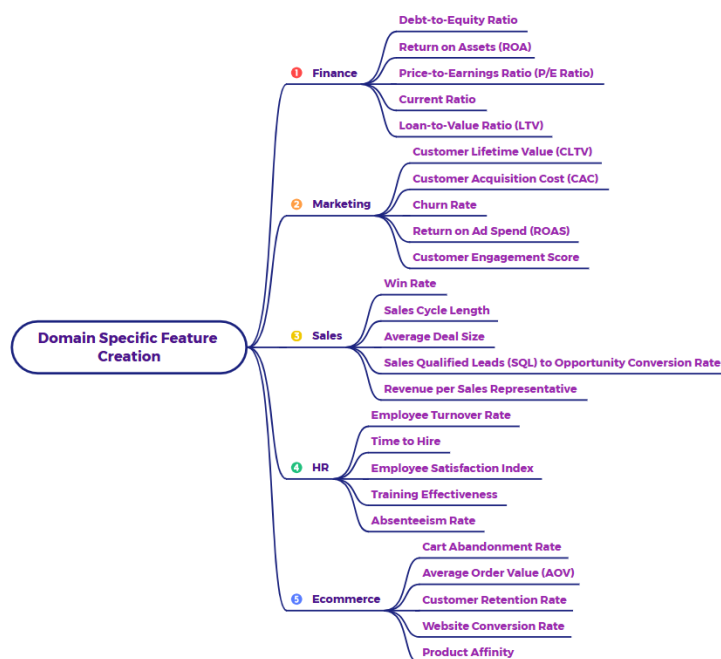


## Explain Domain Specific Feature creation with an example



In essence, domain-specific feature creation involves using expert knowledge to extract meaningful information from raw data. Please find below some examples of domain-specific feature creation:



## 1. Finance

- Debt-to-Equity Ratio:  $(\text{Total Liabilities}) / (\text{Shareholders' Equity})$  - Measures a company's financial leverage.
- Return on Assets (ROA):  $(\text{Net Income}) / (\text{Total Assets})$  - Measures how efficiently a company uses its assets to generate profit.
- Price-to-Earnings Ratio (P/E Ratio):  $(\text{Market Price per Share}) / (\text{Earnings per Share})$  - Valuation ratio that compares a company's share price to its earnings per share.
- Current Ratio:  $(\text{Current Assets}) / (\text{Current Liabilities})$  - Measures a company's ability to pay short-term obligations.
- Loan-to-Value Ratio (LTV):  $(\text{Loan Amount}) / (\text{Appraised Property Value})$  - Assesses the risk of a mortgage loan.

## 2. Marketing

- Customer Lifetime Value (CLTV): Predicts the total revenue a business can expect from a single customer account.
- Customer Acquisition Cost (CAC):  $(\text{Total Marketing Spend}) / (\text{Number of New Customers Acquired})$  - Measures the cost of acquiring a new customer.
- Churn Rate:  $(\text{Number of Customers Lost}) / (\text{Total Number of Customers at the Start})$  - Indicates the rate at which customers stop doing business with a company.
- Return on Ad Spend (ROAS):  $(\text{Revenue Generated from Ads}) / (\text{Total Ad Spend})$  - Measures the effectiveness of advertising campaigns.
- Customer Engagement Score: A composite score based on metrics like website visits, social media interactions, email open rates, and purchase frequency.

## 3. Sales

- Win Rate:  $(\text{Number of Won Opportunities}) / (\text{Total Number of Opportunities})$  - Measures the effectiveness of a sales team or individual in closing deals.
- Sales Cycle Length: The average time it takes to convert a prospect into a customer.
- Average Deal Size: The average revenue generated per closed deal.

- Sales Qualified Leads (SQL) to Opportunity Conversion Rate: The percentage of sales qualified leads that become sales opportunities.
- Revenue per Sales Representative: Measures the productivity of individual sales representatives.

#### 4. E-commerce

- Cart Abandonment Rate:  $(\text{Number of Abandoned Carts}) / (\text{Total Number of Carts Created})$  - Helps understand user behavior and identify potential issues in the purchase process.
- Average Order Value (AOV):  $(\text{Total Revenue}) / (\text{Number of Orders})$  - Measures the average amount spent per order.
- Customer Retention Rate: The percentage of customers who continue to make purchases over a given period.
- Website Conversion Rate:  $(\text{Number of Sales}) / (\text{Total Number of Website Visitors})$  - Measures the effectiveness of a website in converting visitors into customers.
- Product Affinity: Measures how frequently products are purchased together. This can be used to generate product recommendations.

#### 5. HR

- Employee Turnover Rate:  $(\text{Number of Employees Who Left}) / (\text{Total Number of Employees})$  - Indicates the rate at which employees leave a company.
- Time to Hire: The average time it takes to fill a vacant position.
- Employee Satisfaction Index: A measure of employee happiness and job satisfaction, often derived from surveys.
- Training Effectiveness: Measures how effectively training programs improve employee skills and performance.
- Absenteeism Rate:  $(\text{Number of Days Employees Were Absent}) / (\text{Total Number of Working Days})$  - Indicates the rate at which employees are absent from work.