# Q1 What metric would you use this data for?  In your answer name the metric, and explain the value it will bring.

Answer: I want to use this data for the customer churn. This is because a churn will help indicate a customer’s review of the product to know the reason why a customer is not interested in the product anymore such as relational feedback, transactional experience measurement and competition analysis(pricing, brand exposure, customer support facilities, sales tactics and etc.) and this would be beneficial to help a company know what to provide for every customer.

# Q2 Document the meta-data for this metric, i.e. data source, data type, volume, velocity, variety, ethical or legislative considerations.

Answer: Customer satisfaction is measured by the churn rate. Low turnover rates indicate satisfied consumers; high churn rates indicate that customers are departing. A tiny amount of churn on a monthly/quarterly basis adds up over time. 1 percent churn per month quickly adds up to nearly 12 percent yearly churn. Churn is a good indication of future growth. Churn rates follow lost customers, while growth rates track new customers—comparison and analysis of both of these indicators reveals how much your company has grown over time. You can say your business is growing if growth outnumbers churn. If your turnover rate is larger than your growth rate, your company is shrinking. Customer churn forecast varies depending on the line of business (LoB), operation workflow, and data architecture of the enterprise. The prediction model and application must be customized to the objectives, goals, and expectations of the firm. The following are some examples of churn prediction use cases:

1. Information and communication technology (cable or wireless network segment),
2. Provider of software as a service (SaaS),
3. Market for retail,
4. Businesses that rely on subscriptions (media, music and video streaming services, etc.),
5. Institutions of finance (banking, insurance companies, Mortgage Companies, etc.),
6. Human Resource Management, Marketing (Employee turnover).

Q3 You are to write a python program to extract data from Twitter.

The key attributes of the tweets (at the time of writing - this may change - check online for up to date attributes or better still check your dataset collected) pulled out are :

* text: the text of the tweet itself
* created\_at: the date of creation
* favorite\_count, retweet\_count: the number of favourites and retweets
* favorited, retweeted: boolean stating whether the authenticated user (you) have favourited or retweeted this tweet
* lang: acronym for the language (e.g. “en” for english)
* id: the tweet identifier
* place, coordinates, geo: geo-location information if available
* user: the author’s full profile
* entities: list of entities like URLs, @-mentions, hashtags and symbols
* in\_reply\_to\_user\_id: user identifier if the tweet is a reply to a specific user
* in\_reply\_to\_status\_id: status identifier id the tweet is a reply to a specific status

In this extraction, we are interested in the favorite\_count and retweet\_count.  Pull off all tweets, sort by favorite\_count and retweet\_count, and print/output to screen the tweet text and the counts of the top 10 favourited tweets.

Answer: Graphical user interface, text, application, chat or text message

Description automatically generated