

Common Metrics

- **Engagement:** $CTR = \frac{\text{clicks}}{\text{impressions}}$, $DAU/WAU/MAU = \text{Curr} + \text{New} + \text{Resurrected} - \text{Churned}$
- **Sales:** $MRR/ARR = \text{tracks momentum} \rightarrow \text{predicts future growth} = \text{Curr} + \text{New} + \text{Resurrected} + \text{Upgrades} - \text{Downgrades} - \text{Churned}$
- **Growth:** $CLTV = \frac{\text{avg monthly rev per cust}}{\text{monthly churn rate}}$, $CAC = \text{cost to acquire customer} \rightarrow \text{segment by channel, Cost per Lead}$
- **Retention:** Stickiness ($\frac{DAU}{MAU}, \frac{WAU}{MAU}$) = % of days/weeks in a month product used, 30/60/90 day retention, Churn Rate, NPS

1. Diagnose Problem - underperforming metric find root cause, e.g. why driver ETA up 3min? why FB friend requests down 10%?

- **Metric:** fractional (num vs. denom, $\frac{\text{comments}}{\text{users}}$), subset (tot usrs vs. active vs. unique), decompose ($DAU = \text{Curr} + \text{New} + \text{Resurrected} - \text{Churned}$)
- **Temporal:** suddenly or progressively **Product Line:** are other metrics/products affected? recent change to other products \rightarrow cannibalization?
- **Trigger:** internal (bug, corruption, outlier, model update) or external (season, competitor, industry trend, day of week)
- **Cohort:** usr activity **Segment:** decline isolated to segment? (usr age {new/old}, acquisition {organic/paid}, region, browser, age, time)
- **Funnel User Journey:** steep drop in conversion rate at any step in funnel? (compare funnels across segments or different usr paths)
- **Propose Graph:** churn/retention graph, conversion funnel, cohort analysis, bar graph, line chart

2. Measure Product Success/Tradeoff - e.g. how to measure success of Yelp reviews? was adding stories to Instagram a good idea?

- **How Product Ties Into:** 1. Mission 2. Biz Goals: B2B = sales, Social Media = engagement, Marketplace = retention (CLTV), Startup = growth
- **Discuss User Journey to Brainstorm Metrics:** 1. product acquisition (discovery) 2. conversion 3. engagement (usage)
- **Track Metrics:** suggest dashboard metrics that track product health within categories: 1. engagement 2. revenue 3. growth

3. Improve Product - e.g. how to improve Whatsapp? how to increase engagement on FB?

- **Clarify:** 1. Goal (what to improve: engagement, retention, revenue) 2. Scope (narrow if broad down to one product/feature)
- **Brainstorm Features:** 1. viz usr journey /w product (off page = reduce friction to find it, on page = increase awareness of it, on page & aware = decrease friction to use it, off page = send reminders) 2. segment usrs, gather data on usrs in each segment to investigate why (new usr, old usr never used, old usr not used in awhile, old usr frequently uses)
- **Prioritize Features:** estimate bottom-line impact **Determine Success of New Feature:** determine success/guardrail metrics \rightarrow run A/B test