

Title: Church Engagement

Introduction

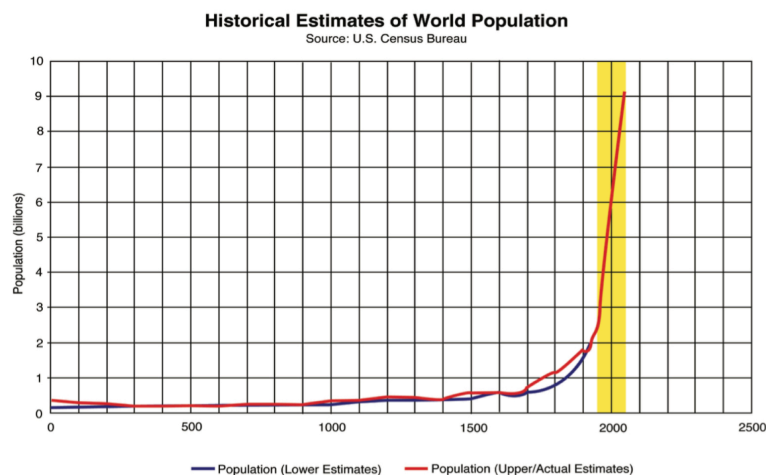
Summary

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Motivation (Approved)

Trying to communicate: what motivates me to start this research

A follower of Jesus Christ, believes in everything described in the Bible because of the idea that God himself inspired people to write this book so humanity would know how to have a relationship with him and make the most out of their lives.¹ Throughout biblical history, God attempted multiple times and with different strategies to have relationships with humanity, but because of human nature, they rejected God in many ways. Still, one of its teachings is that God, the creator of the universe, has a perfect plan for every individual on Earth, not leaving room for odds or coincidence and that God created the church, a place for Christians to have community and help each other to keep their relationship with God. With that in mind, the figure below raises an interesting question: why would God create a data scientist at this stage of humanity? A stage where data drives many decisions in the world and a stage where the world population is bigger than ever before. A fellow Christian might conclude that God strategically placed him or her in this era with these skills to help God to bring more people to church so they can develop the so desired relationship with him.



¹ 2 Timothy

Objectives (Approved)

Trying to communicate: what are the deliverables of this paper

Churches are growing, and it is becoming harder for church leaders to know the name and spiritual journeys of church members. With that problem in mind, developers created different systems to assist leaders in managing their members. One popular and free solution is the Rock RMS. Rock is an open-source solution used by hundreds of churches worldwide that helps to track and manage the relationship between the church and its members by tracking common life events and demographics such as marriage, graduation, birthdays, address, and more. It also helps track religious events, known as “next steps,” such as attendance, financial transactions, volunteering, baptism, joining a small group, and more.

As soon as a church installs Rock RMS, a problem is fixed: now they have data and means to know their members and help them grow spiritually. Finally, they can work on campaigns to invite more people to attend their church because it seems like they can easily measure growth by tracking the number of new accounts, new attenders, new givers, and new volunteers. However, a different problem emerges: there is too much data, and having a normalized database makes it harder to grasp data insights. This structure requires a data specialist to wrestle with the data, query the database, and answer, with data, questions worth asking. The problem is that very few churches will have a professional who knows SQL and statistics to dig into the tables and find answers. This project aims to create a data analysis framework using Rock RMS core tables from a church that uses the system as a case study to answer three questions:

1. What is a good way to measure growth?
2. Can we identify patterns that cause people to stay?
3. Can we identify patterns that cause people to leave after being a member?

Prior work

Plan of Action

Methodology (Approved)

Trying to communicate: how I am going to do this

This project will use a multi-site church as a case study. This church started using Rock RMS in 2018, and it currently has 43 campuses distributed across the United States, with an average (mean) attendance count in 2022 of 67,320 per week across all the campuses and its online platform. This number is collected by manually counting the number of people on every campus, but this information is not on Rock. An attender can record attendance on Rock RMS by checking in in the church app, checking in as a volunteer, or leaving their children in the kid's ministry. The average (mean) attendance recorded on Rock is 36,069 per week in the same period. Because this project aims to build a framework for other churches to use, only recorded attendance on Rock will be used. Still, it is important to mention the discrepancy because it reinforces the need of inviting people to use Rock RMS as much as possible. The discrepancy also reveals the attender anonymity that might be a challenge to overcome or accept throughout the analysis.

Summary of the dataset

Trying to communicate: what dataset I am going to use

The Rock RMS data is organized into separate tables in a normalized database to avoid duplication.² The tables are categorized into communication, CRM, engagement, finance, and group. Each category has many different tables with event records and their attributes. Many of these categories will be used and explored to answer the three main questions and determine what factors, if any, contribute to helping people stay or leave the church.

Execution

How to measure church growth?

Trying to communicate: use the same metrics used by tech companies to find out which one is a good one for churches.

² normalization. (2003). In B. Pfaffenberger, Webster's new World&Trade; Computer Dictionary (10th ed.). Houghton Mifflin Harcourt. Credo Reference: <https://oralroberts.idm.oclc.org/login?url=https://search.credoreference.com/content/entry/webstercom/normalization/0?institutionId=5550>

Reports to investors released by major tech companies such as Spotify³, Facebook, Instagram, Messenger, WhatsApp⁴, and Amplitude⁵, have many metrics to measure the growth of their users, and a few metrics are commonly found: Monthly active users (MAU), or weekly active users (WAU), and daily active users (DAU) are ways they use. Amplitude is, in fact, a company specialized in helping these big tech companies evaluate their products, and they provided a Product Metrics Guide to assist other companies in evaluating themselves.

One metric proposed by Amplitude is the Activation rate which can be obtained by dividing the number of people who complete a milestone activation event by the number of users who signed up to use the product.

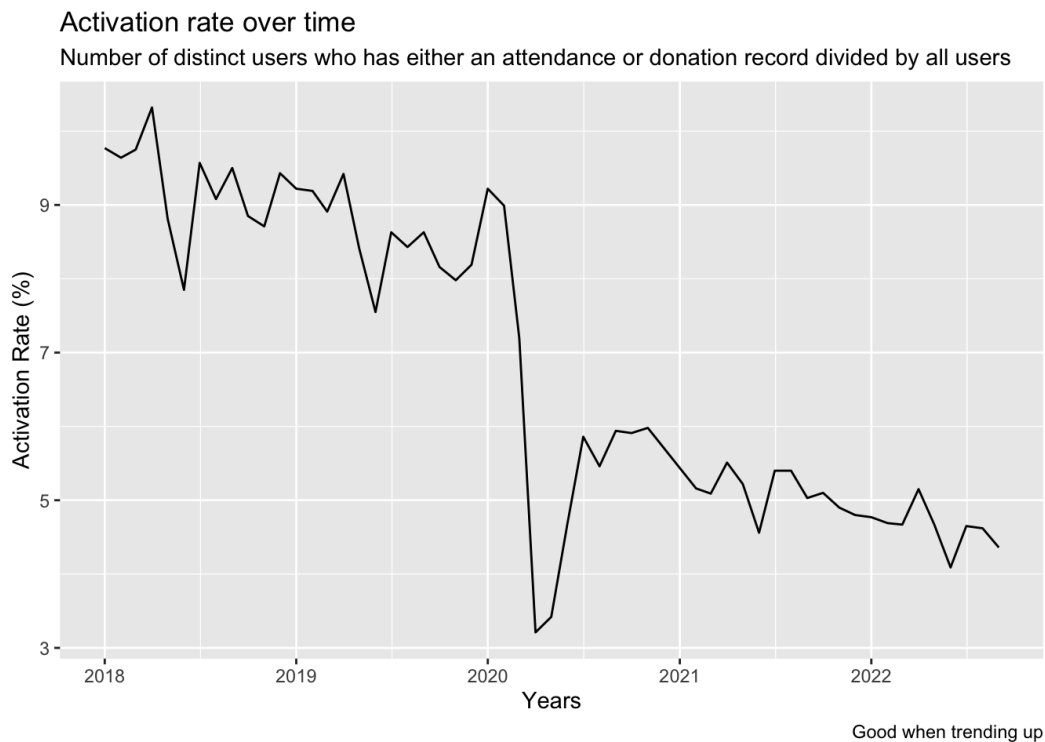


Figure 1

³ Spotify. (2022b). Q4 2022 Earnings Report. In <https://investors.spotify.com/>. Retrieved February 3, 2023, from https://s29.q4cdn.com/175625835/files/doc_financials/2022/q4/Shareholder-Deck-Q4-2022-FINAL.pdf

⁴ Meta. (2022). Q4 2022 Earnings. In <https://investor.fb.com>. Retrieved February 3, 2023, from <https://investor.fb.com/investor-events/event-details/2023/Q4-2022-Earnings/default.aspx>

⁵ Amplitude. (2023). 15 important metrics you should be tracking. <https://info.amplitude.com/product-metrics>

A person can create a Rock account in many different ways, even by simply submitting a form to receive a guide from a church. “Lead capture”⁶ is a business concept that happens when a company captures personal information, such as email or phone number, from a potential future customer. With this idea in mind, simply looking at the number of new Rock accounts seems to measure the growth of the lead database instead of church growth. Therefore, the metric proposed by Amplitude seems more relevant to measure growth, especially if the “milestone activation event” is attendance, the moment that a potential member attends a service from the church or donation. Figure 1 shows that the activation rate is trending down even before COVID, maybe because there is much investment towards capturing new leads and fewer resources activating them.

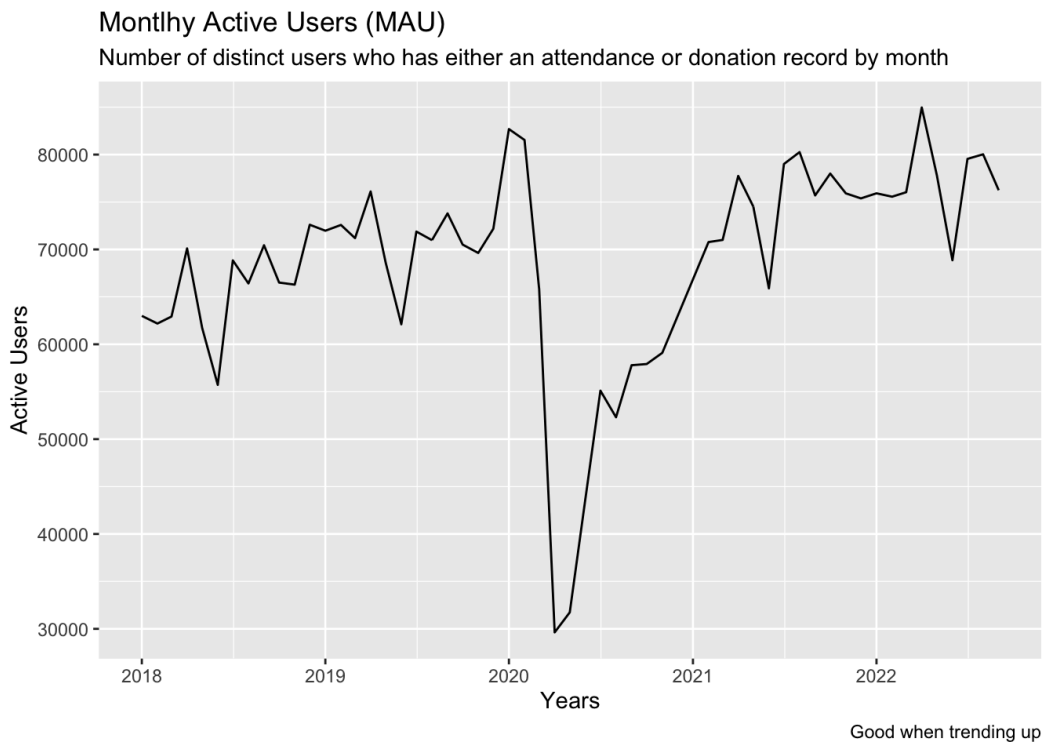


Figure 2

⁶ Developing effective web site landing pages. (2011). In J. Law, Business: the ultimate resource (3rd ed.). A&C Black. Credo Reference: https://oralroberts.idm.oclc.org/login?url=https://search.credoreference.com/content/entry/ultimatebusiness/developing_effective_web_site_landing_pages/0?institutionId=5550

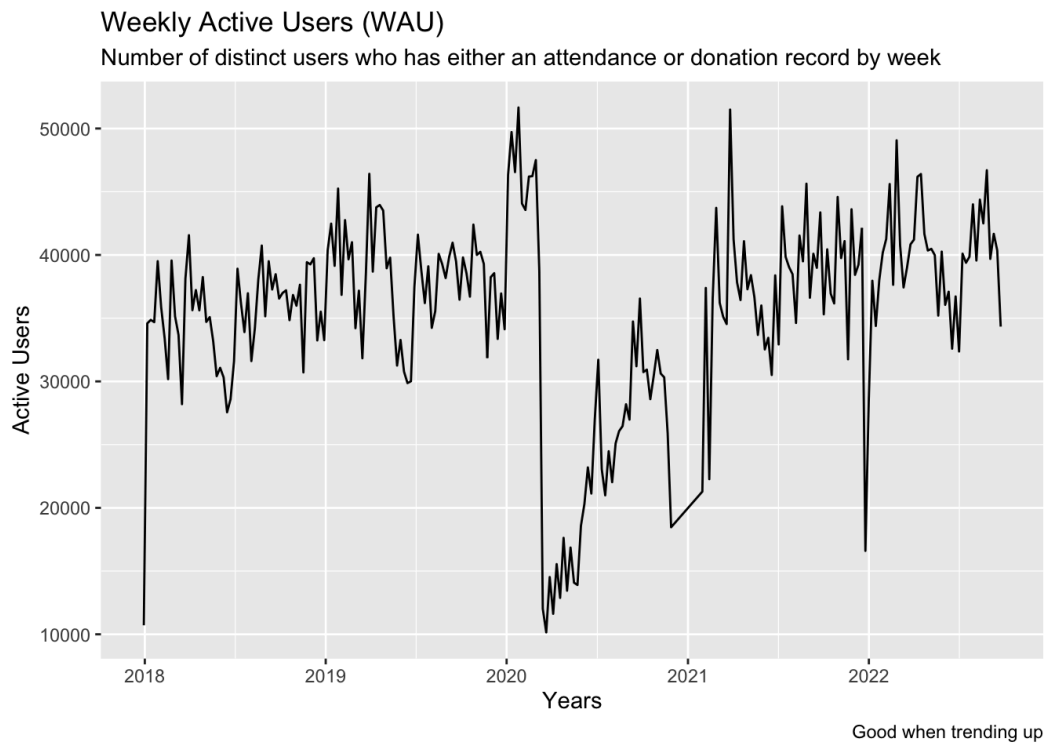


Figure 3

Now, let us consider Monthly active users (MAU), a metric also often present on quarterly reports from big tech companies. Because churches usually have services

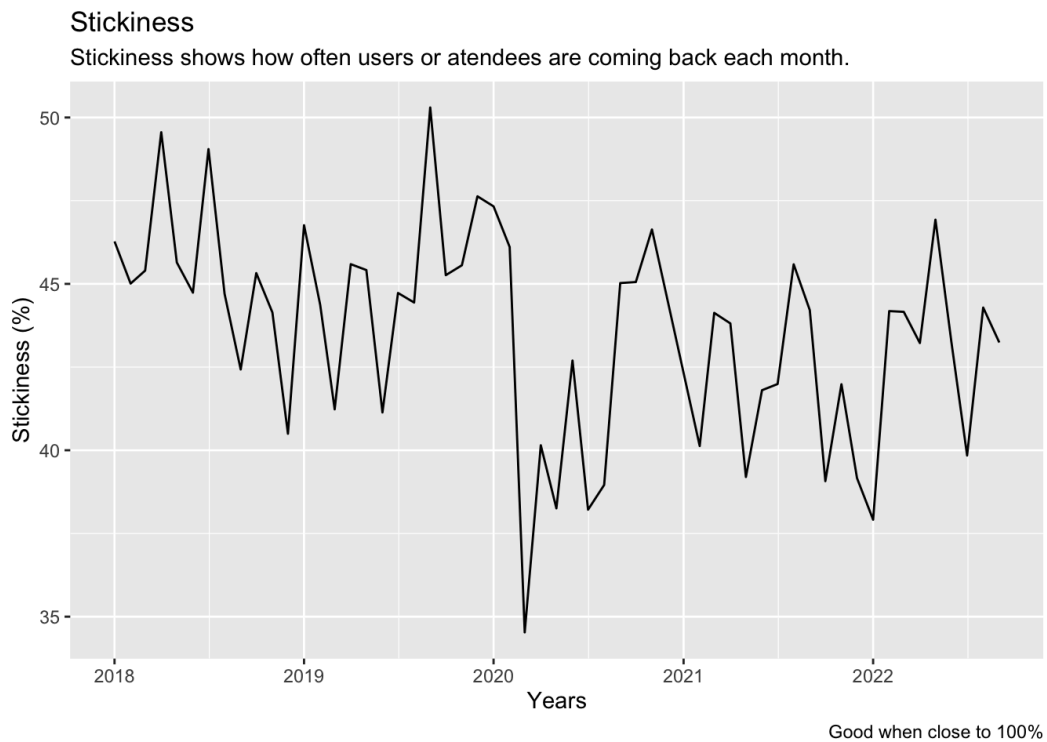


Figure 4

during the weekend, it is important to look at the weekly active users (WAU).

The MAU is growing (Figure 2) and is currently even higher than before COVID. This metric might explain the activation rate trending down because it seems like many people are activating quickly once, increasing the number of leads in the database. Still, the reason MAU grows slowly might be due to users not returning in the next month.

According to Amplitude, the WAU and MAU allows the calculation of the stickiness rate to show how often users or attendees return each month.

The stickiness is trending down, usually around 40% to 45%, which means that attendees typically activate 2 out of 4 weeks a month. Stickiness seems to be a good metric for churches because it is easy to understand and measure. Any church would want 100% stickiness, meaning their members return weekly.

Why is this better than measuring attendance?

- The number of members of churches will vary dramatically from church to church. Stickiness helps to create a more feasible benchmark for churches.
- The percentage perspective avoids misleading interpretations for churches with big attendance numbers.
- It ensures that leaders are aiming a healthy growth. The activation rate, combined with stickiness, ensures that church leaders have the tools to track member addition without losing track of member deactivation.

Now that a better understanding of how often attendees are coming back or activating, let us see how long it takes for an attendee to become active after creating their account.

Days to activate, according to Amplitude, is an important metric based on the belief that people who do not act quickly might never engage with the product. As observed in Figure 5, it used to take up to 400 days for people to activate, but now it takes less than 20 days for activation.

Summary

At this point, we learned a lot about the speed and growth of the church.

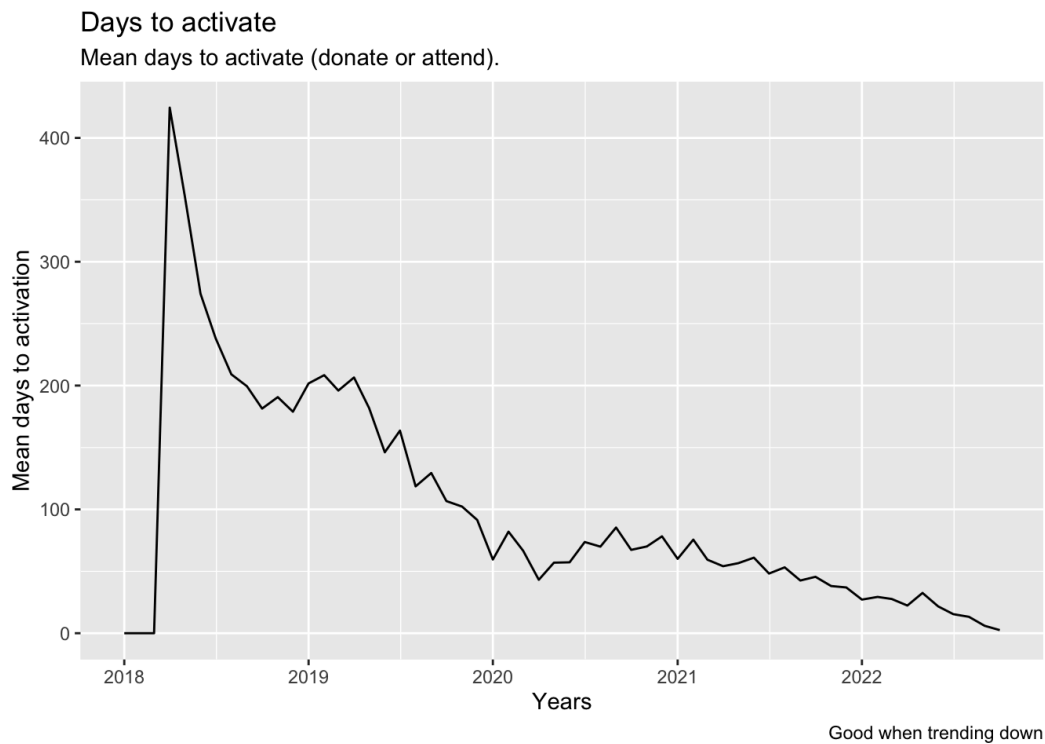


Figure 5

We observed that measuring growth just by the number of new accounts is not enough because, frequently, a new account may never engage with the church.

The monthly/weekly activation users (MAU/WAU - the measure of members who either donated or attended a service) seem to provide a better perspective because it pays close attention to engaged members.

These metrics allow calculating the Stickiness, which tells us that, in this case, members are engaging 2 out of 4 weeks every month. Stickiness is an excellent metric for church leaders to place efforts into improving it.

Finally, we calculated how fast members started engaging with the church after creating an account. Our case study results are surprisingly good, with the mean decreasing from 400 to very close to 0 days over the years.

Now it is time to find metrics to help us understand if this church is keeping its member engaged over time.