

SQL · PRODUCT ANALYTICS

How This Product Is Actually Doing: A SQL Investigation

Growth, engagement, and email performance, read straight from 325,000+ raw product events. Built to answer one question: is the business healthy, and where should attention go next.

THE QUESTION

Growth looks healthy on its own. Is it healthy underneath?

A product team can watch its user count go up every month and still be losing ground, if the people already on the platform are using it less over time. This project pulls four separate logs together (who signed up, what they did, what emails they opened, and how a small operational feed behaved) to check both halves of that question at once: is the user base growing, and is it staying engaged.

9,381

active users by the end of the window

325k

engagement events across 18 weeks

90k

email send, open, and click events

20 mo.

of user signups, May 2013 to Aug 2014

Four tables, joined on user_id

One row per user, one row per product action, one row per email event, and a small separate operational log.

users 9,381 rows	events 325,255 rows	email_events 90,389 rows	job_data 8 rows, separate feed
user_idint, PK	user_idint, FK	user_idint, FK	job_idint, PK
created_atdatetime	occurred_atdatetime	occurred_atdatetime	dsdate
company_idint	event_typetext	actiontext	language
activated_atdatetime	locationtext	user_typeint	orgtext
statetext	device		
	user_typeint		

Note on user_type: the source data labels users 1, 2 or 3 with no key describing what the segments mean. Treated here as an unlabelled behavioural split, not assumed to be a tier or plan.

FINDING 01

User growth was steady for the entire window



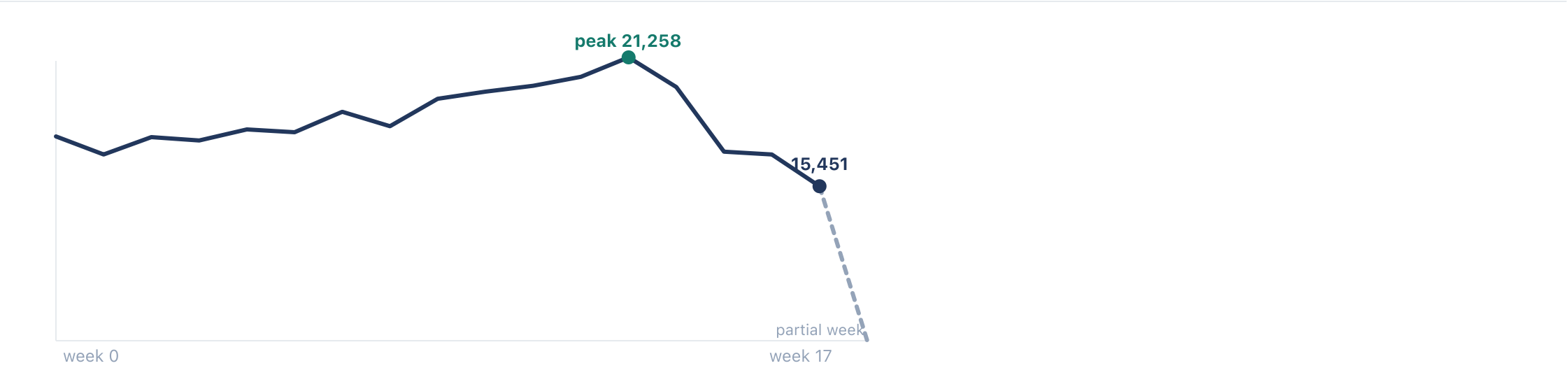
Cumulative active users, by the month each user activated.

160 new active users in the first month. 1,031 in the last.

The rate of new signups is not slowing as the user base grows. If anything the most recent months are adding people faster than the earliest ones did.

FINDING 02 · THE ONE THAT MATTERS MOST

Weekly engagement peaked at week 12, then fell 27%



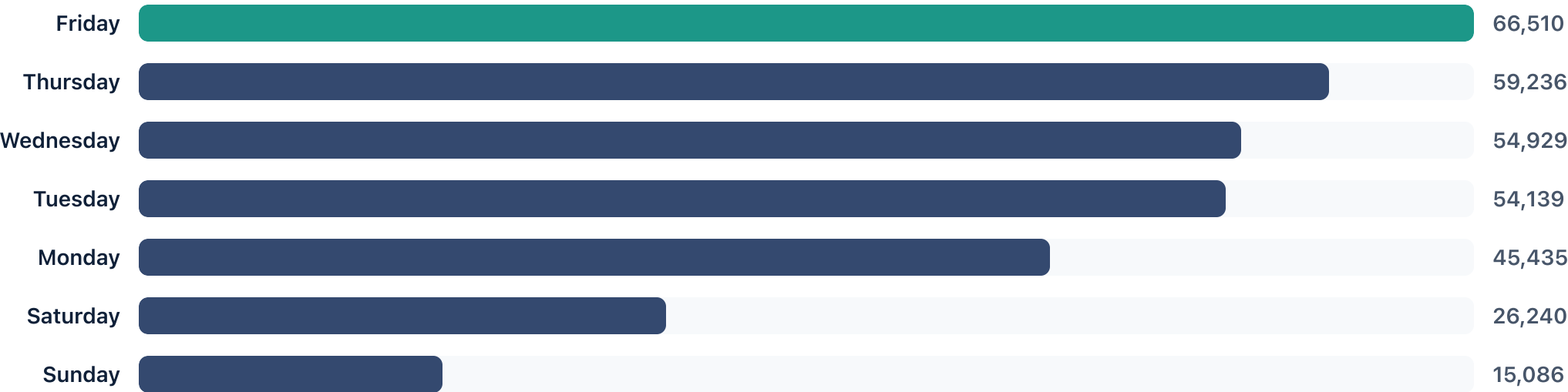
Engagement events per week, counted from the first event in the data. Dashed segment is a partial final week and is excluded from the 27% figure below.

Engagement climbed for 12 weeks, then declined 27% over the next four.

From 17,732 events in week 0 to a peak of 21,258 at week 12, then down to 15,451 by week 16. This is a real decline, not a reporting artifact: the original weekly aggregation used MySQL's WEEK() function, which resets ambiguously at year boundaries, so the trend was recalculated with weeks numbered from the first event instead, keeping every week the same length.

FINDING 03

Engagement is a weekday habit, and Friday leads



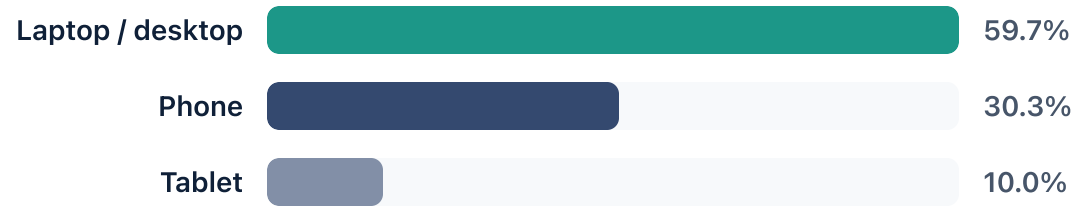
Friday sees over four times the engagement Sunday does.

Usage is clearly a weekday behaviour rather than a leisure one, which points to a work tool rather than a consumer app. A separate look at hour of day found one unusually sharp spike at 9am local server time, about three times the volume of the hours around it. That is flagged here rather than explained: the cause was not identifiable from this data alone, and is worth checking against how events are actually logged before treating it as a real usage pattern.

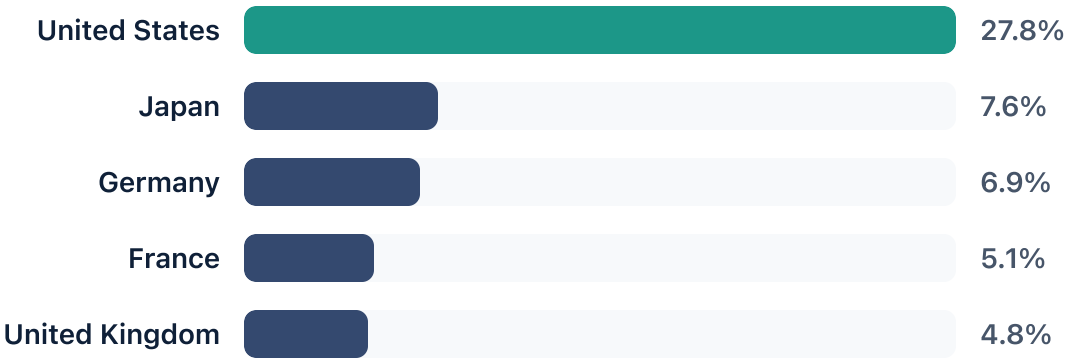
FINDING 04

Where engagement happens: desktop, and the United States

By device



By country (top 5)

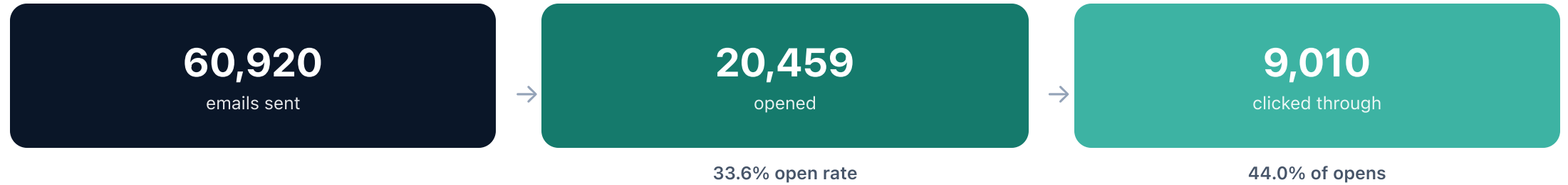


Mobile is real, but not the majority. The US alone beats the next three countries combined.

Phone and tablet together make up 40.3% of engagement, worth building for but not worth building mobile-first around. The US share (27.8%) exceeds Japan, Germany and France added together (19.6%), which should set the default time zone for any test of a new feature.

FINDING 05

The email program is already outperforming typical benchmarks



Both rates sit above the typical product-email range.

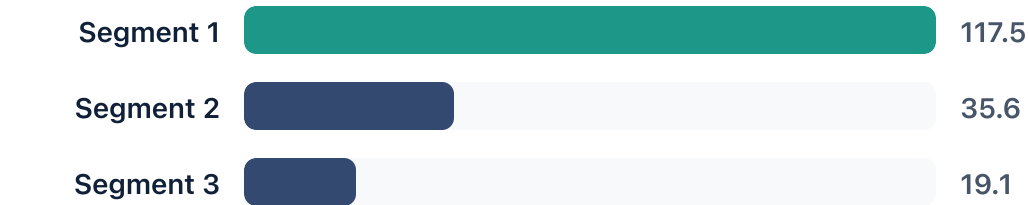
Roughly 15 to 25% open and 20 to 30% click-through of opens is a common benchmark range for this kind of email. The content and targeting are already working; if there is a growth lever left in this channel, it is send volume or list size, not the emails themselves.

FINDING 06

One user segment barely touches the product, but opens email just as often

Users split into three unlabelled types (see the schema note on slide 3). Comparing product engagement against email behaviour for each group.

Product engagement events per user



Email open rate, by segment



Segment 1 uses the product six times more than Segment 3, but the two open email at almost the same rate.

117.5 engagement events per user in Segment 1 versus 19.1 in Segment 3, a gap email behaviour does not explain: open rates across all three segments sit within one point of each other (33.1% to 34.1%). Whatever separates a heavy user from a light one here, it is not whether they read their email. That points investigation toward onboarding or the product itself, not the email program.

METHODOLOGY NOTE

One table was too small to trend, so it got a quality check instead

job_data holds 8 rows across six days in November 2020, a separate and much smaller feed than the other three tables. Rather than report a jobs-reviewed-per-hour trend that eight rows cannot support, it got the same first check any new operational feed should get: duplicates and language mix.

0

duplicate rows, checked across job_id, actor, event, language and timestamp

6

languages represented in the job queue, no single one dominant

Clean data. Not enough of it yet.

Knowing when a table is too small to say anything is as important as knowing what to say when it is big enough.

SUMMARY

Three things worth acting on

- **Engagement, not growth, is the metric to watch.** The user base grows every month, but weekly engagement per active user peaked at week 12 and fell 27% by week 16. Growth alone would have hidden this.

- **Find out what separates Segment 1 from Segment 3.** A sixfold gap in product usage exists between two groups that engage with email almost identically. The cause sits somewhere in onboarding or the product, not the inbox.

- **The email program does not need fixing, it needs more reach.** A 33.6% open rate and 44.0% click-through of opens both already beat typical benchmarks.