ARCHITECTURE NOTES · RESOURCE

Silent failure is the dominant failure mode of growth systems. Heartbeats fix it.

Silent failure is the dominant failure mode of growth systems. Heartbeats catch what triggers do not.

Companion to: Silent failure is the dominant failure mode of growth systems. Heartbeats fix it..

What this deck covers

The most expensive bug in any growth stack is the one where every status code reports green and the actual work never happens. The cron fires, the webhook returns 200, the integration logs success, and the email never arrives, the order never bills, the draft never lands. Silent failure is the dominant failure mode of orchestrated growth systems, and heartbeats are the fix.

- Why silent failure is the dominant failure mode of growth systems
- The heartbeat panel: a framework for catching silent failures early
- Runbook: shipping a heartbeat panel in one week
- When this is wrong: the trade-offs

Why silent failure is the dominant failure mode of growth systems

01 **The three failure shapes that share the same anatomy**

Across the Klaviyo lifecycle systems on /email-and-sms, the Webflow funnels on /websites-cro, and the agent stacks on /ai-lab, three classes of break show up over and over.

02 **Triggers vs. heartbeats**

For Klaviyo, the heartbeat is inbox-placed sends, not sends-attempted.

The heartbeat panel: a framework for catching silent failures early

01 **Build one row per system, sorted**

Build one row per system, sorted by severity.

02 **Each row carries three states**

Each row carries three states.

03 **Green: heartbeat present in the last**

Green: heartbeat present in the last cadence window.

Runbook: shipping a heartbeat panel in one week

01 **List every revenue-load-bearing workflow you run**

List every revenue-load-bearing workflow you run.

02 **Klaviyo flows, the Shopify checkout, every**

Klaviyo flows, the Shopify checkout, every n8n agent, every Webflow CMS publisher, every cron in your stack.

When this is wrong: the trade-offs

01 **The heartbeat panel is overkill for**

The heartbeat panel is overkill for systems that are not revenue-load-bearing.

02 **A blog publishing cron that runs**

A blog publishing cron that runs weekly does not need the same instrumentation as a Klaviyo abandoned-cart flow.

03 **The cost is operator attention, and**

The cost is operator attention, and operator attention is finite.

What success looks like

01 **When the heartbeat panel is doing**
When the heartbeat panel is doing its job, you catch deliverability cliffs in week one instead of month two.

02 **You catch device-class checkout regressions on**
You catch device-class checkout regressions on the day of the deploy, not after the next monthly close.

03 **You catch agent silent-write failures within**
You catch agent silent-write failures within the first cadence window, not after the postmortem.

FAQ

01 ****What counts as a heartbeat versus**

**What counts as a heartbeat versus a trigger?

02 **** A trigger is the system**

** A trigger is the system attempting work: a cron firing, a webhook returning 200, a queue advancing.

03 **A heartbeat is the artifact the**

A heartbeat is the artifact the system must produce in the world when the work succeeds.

NEXT STEP

Read the full architecture note

Silent failure is the dominant failure mode of growth systems. Heartbeats catch what triggers do not.

arthea.ai/book ->