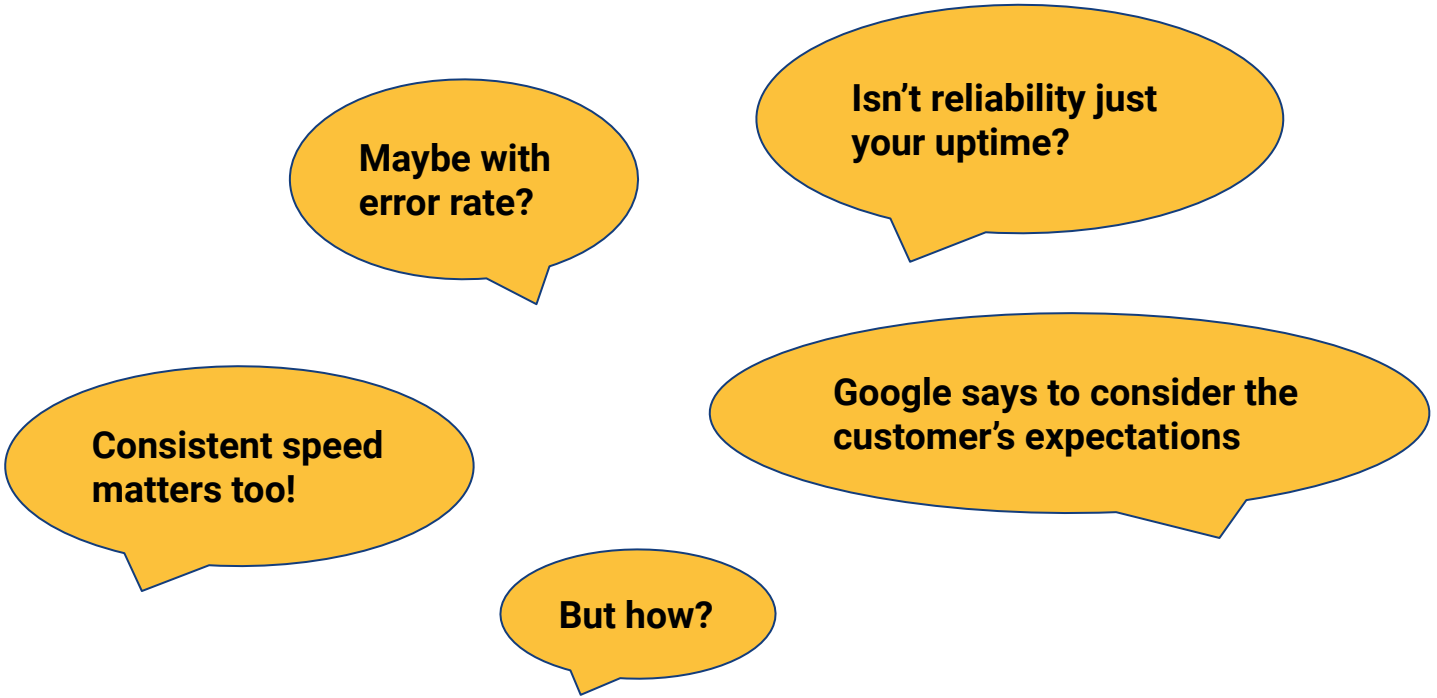
BLAMELESS

Introducing: The New Reliability

By Emily Arnott

- What is reliability?
- Why do you need to align
- Reliability in the “real world”
- A technical example
- Measuring the new reliability

What is reliability?



Get on board with reliability!

Outage cost company about $164,000 a minute in revenue, while stock's decline wiped away more than $40 billion in market cap and cost Mark Zuckerberg roughly $6 billion personally

An Incalculable Cost

The big question is what this all means in terms of costs. The easiest ones to calculate are the costs directly to Rogers itself. After promising a rebate of 5 days of service [illegible] ue from almost 11 million subscribers or aroun[illegible] o approximately $3.80 per subscriber is [illegible] subscriber. That could be over $4 billion right ther[illegible]

Calculating the cost of downtime

Understanding the financial impact of major incidents

In March 2015, a 12-hour Apple store outage cost the company $25 million.

In August 2016, a five-hour power outage in an operation center caused 2,000 cancelled flights and an estimated loss of $150 million for Delta Airlines.

In March 2019, a 14-hour outage cost facebook an estimated $90 million.

Our thesis

Product Health

Customer Happiness

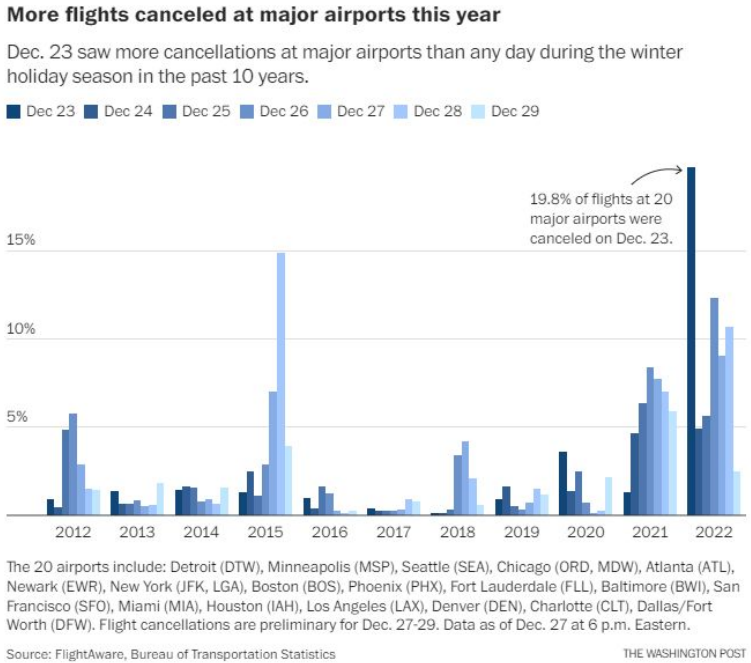
Socio-technical Resilience

The reliability of flying

Product Health	Customer Happiness	Socio-technical Resilience
Airline systems are working properly	The airline prioritizes your needs	The pilot knows how to fly
The airplane is properly stocked	It’s stocked with the things you want	The crew shows up on time
		The crew is in good spirits and cooperative
		The airport staff knows what to do

Holiday flight disasters

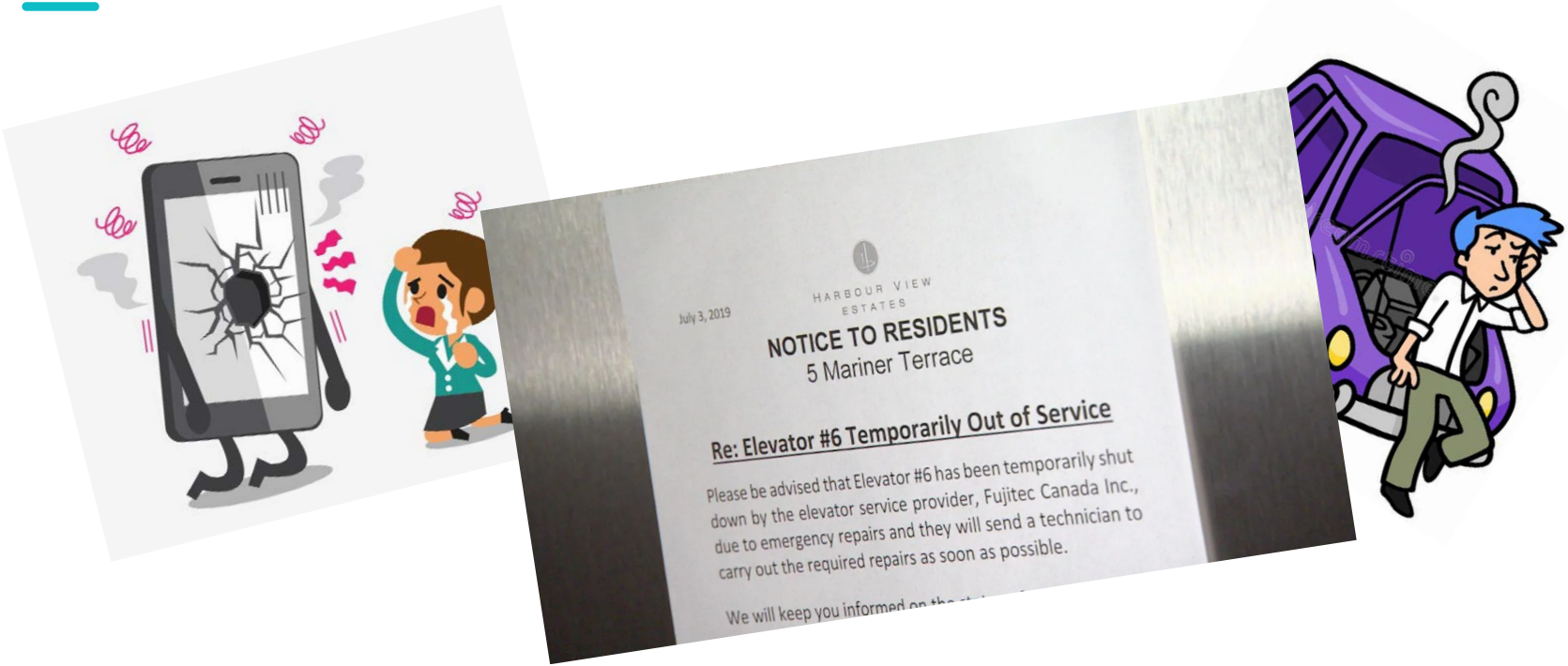
While the "once in a generation" winter storm is passing, the flight cancellations and delays are going strong. More than [illegible] were canceled Tuesday among all carriers, with South[illegible] accounting for more than 2,600 of the total.



Holiday flight disasters

Product Health	Customer Happiness	Socio-technical Resilience
Bad weather	High demand	Automation becomes manual
Systems hit their limits	Poor communication	Undertrained staff
Flights cancelled	Inconsistent messaging	Understaffing

This type of unreliability is everywhere



Let’s take a tech example

	System Health	User Expectations	Sociotechnical Resilience
Service A	GOOD	MID	LOW
Service B	OK	HIGH	HIGH
Service C	BAD	LOW	HIGH

Let’s break it down a bit further

Product Health

Observability, code stability, all of that input data.
Telemetry - gathering data from tools embedded in application code
Four Golden Signals:
- *Latency*
- *Error Rate*
- *Traffic*
- *Saturation*

These are the measurable facts about the way your service is functioning.

Customer Happiness

How happy are customers?
What does the user experience look like?
What is important to customers and what are their expectations?
Do the customers feel confident in your product and your business?
Does the customer feel supported? Informed?
Do your customers feel connected to you?

Socio-technical Resilience

How effective is our team during incident response?
Do we have clear service ownership?
Are teams aligned on their priorities and responsibilities?
Are on-call loads balanced?
Are people burnt out?
Are people equipped with the tools and knowledge they need?
Does your team still function if someone is suddenly away?

Why this definition works for you

ALIGNS your whole organization

MOTIVATES impactful changes

PRIORITIZES where changes are needed

How to measure the new reliability

What are the sources of manual labour for each type of incident?

There's a lot! We should work on automating parts of it.

How many incident hours has each engineer spent on-call?

The team for this incident type is always busy. We should consider expanding it!

How much time has your team spent fixing each service?

Our teams haven't had much experience with this going down. We should proactively practice!

In conclusion…

Your users' expectations

Your system's health

Your engineers' sociotechnical resilience

Citations

https://www.catchpoint.com/blog/rogers-outage

https://www.marketwatch.com/story/facebook-outage-by-the-numbers-largest-outage-ever-tracked-could-cost-millions-11633387093

https://www.atlassian.com/incident-management/kpis/cost-of-downtime

https://www.washingtonpost.com/transportation/2022/12/27/holiday-air-travel-this-year-is-worse-than-years-past/