

Correlation over Causation

Cracking the relationship
between user happiness
and user engagement



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About Atlassian

6th most popular enterprise software provider

- Founded in 2002
- 15+ products, including Jira Software, Confluence, Trello
- 8,000+ employees
- 5,300+ marketplace apps
- 230,000+ Atlassian customers
- No traditional sales team
- Growth relies on user happiness

About Confluence

Remote-friendly team workspace where knowledge and collaboration meet

- Knowledge management, project collaboration, documentation...
- Released in 2004 (server)
- In 2017, Atlassian started offering Confluence Cloud
- Today, Confluence has Server, Data Center and Cloud versions
- 75,000+ customers
- 60% of Fortune 500

About Us

Leaders for Confluence Cloud Core Experience



Natalia

- Oversees product strategy, roadmap and execution
- Team of 20 product managers
- Data skill: finding the right questions to ask



Rameil

- Oversees experimentation, instrumentation, reporting and analysis
- Team of 7 product analysts
- Data skill: connecting the seemingly unrelated dots into insights

What You'll Hear Today

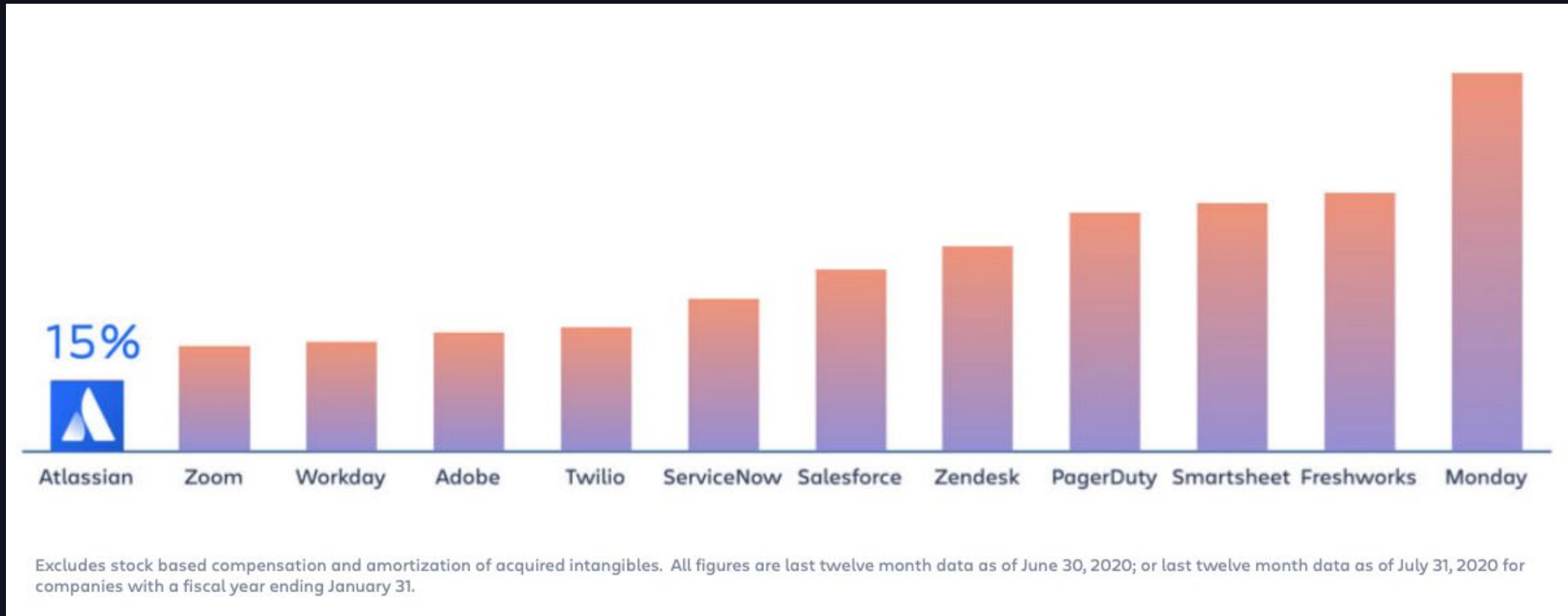
Understanding and Operationalizing Customer Happiness

- How we approached identifying drivers of customer happiness
- How we mapped qualitative and quantitative insights
- How we analyzed customer behavior patterns and what we learned
- How we converted learnings into prioritization and impact

The Problem

Product-Led Growth at Atlassian

Our growth is impossible without customer happiness



Challenge With User Happiness Metrics

NPS, CSAT, CES are hard to action at scale

- Direct signals (customers say how they feel)
- Cognitive and emotionally driven
- May represent short- or long-term sentiment, hard to combine
- Different scopes (feature, company, product, support interaction...)
- Often over-index on what doesn't work vs what does
- Improving requires aligned and consistent prioritization

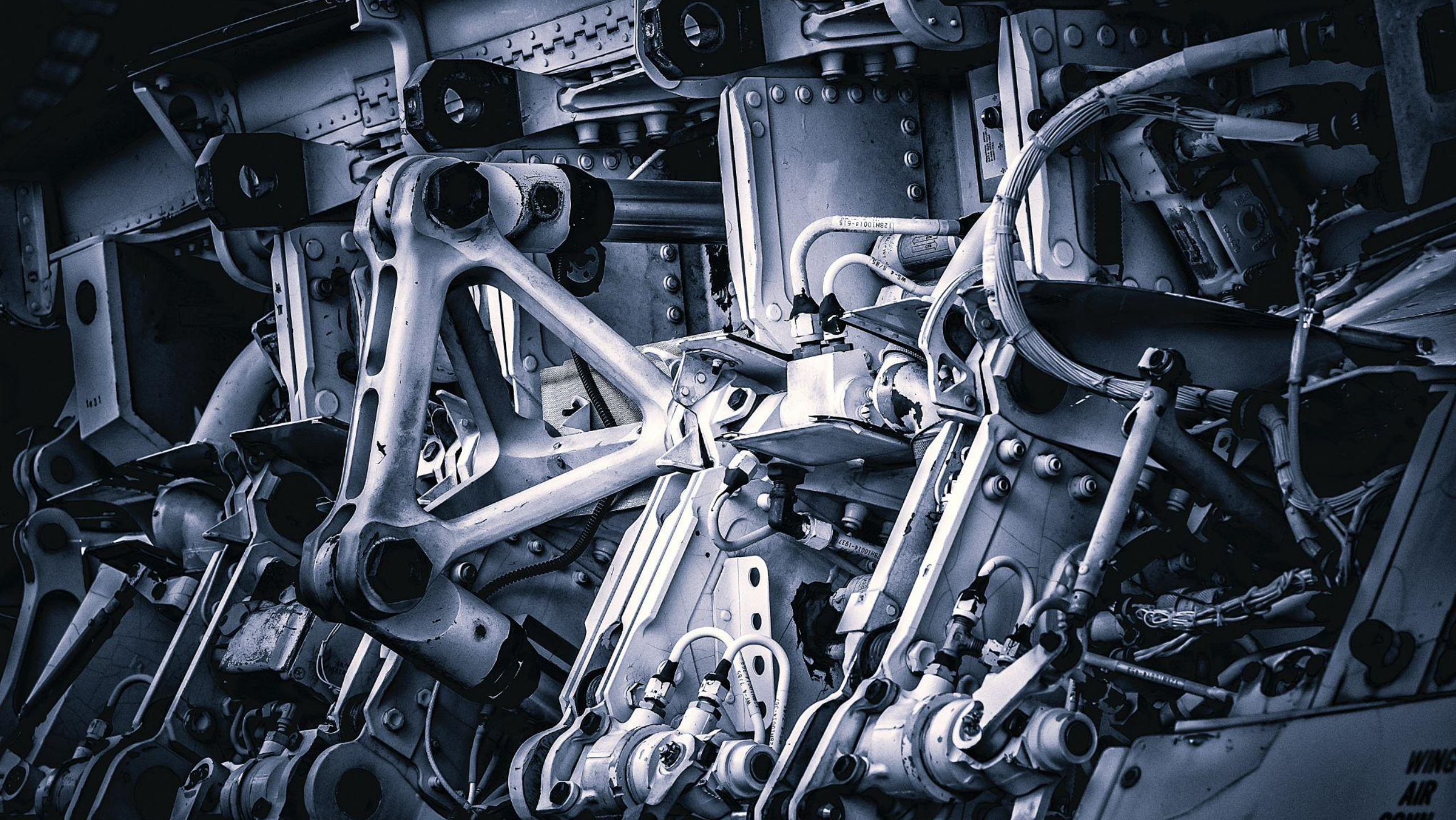


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How can we
use the user happiness data
to build an actionable plan
that prioritizes
the most impactful improvements?

Our Methodology



Initial Beliefs

Correlation Between Happy and Most Engaged Users

Our original hypothesis was that happy users are the most engaged users, and unhappy users are the least engaged

What We Observed

Correlation Between Happy and Most Engaged Users

However, we established that both happy and unhappy users are highly engaged.

This compelled us to focus on **patterns** of engagement rather than **volume** alone.



Analyzing Engagement Patterns

User behaviors that correlate to user happiness

Broad types of user “jobs to be done” in Confluence

1. Creation of content
2. Navigation
3. Reading content
4. Collaboration

The screenshot displays the Confluence user interface. At the top, there is a navigation bar with options like Home, Recent, Spaces, People, Apps, and Templates, along with a 'Create' button (callout 1) and a search bar. The left sidebar shows a user profile for 'Rameil S' and a list of navigation items including Questions, Analytics, Calendars, Space Settings, Bulk Archive, and various APPS like Glify Diagram and Whiteboard. Under SHORTCUTS, there is a list of pages, with 'FY23 Analytics Roadmap' highlighted (callout 2). The main content area features a large image of a winding road, followed by the title 'FY23 Analytics Roadmap' and metadata indicating it was created by Rameil Sarkis. Below this is a blue banner with the text 'TEAM Mission: Our mission is to help unleash the potential of every team.' (callout 3). The central part of the page contains a detailed Gantt-style roadmap chart with various milestones and tasks across quarters from Q1 2019 to Q4 2019. At the bottom, there is a reaction bar with icons for thumbs up, thumbs down, and other reactions (callout 4), and a comment input field.

Finding:

Happy and unhappy users
have distinct engagement
patterns

	Creation	Collaboration	Reading	Navigation
Happy	Green	Green	Green	Grey
Unhappy	Red	Grey	Green	Red

Analyzing Engagement Patterns

User behaviors that correlate to user happiness

- Deeper dive into specific tasks within “jobs to be done”
- Device usage patterns (mobile vs desktop)
- Across cohorts (tenure) and segments (small vs large orgs, license type)
- Migrator status (cloud-native vs migrated from server)

What Outcomes Looked Like

(Sample, not actual data due to business confidentiality)

Segment	Creation	Collaboration	Reading	Navigation
Overall	$r=0.40$	$r=0.46$	$r=0.90$	$r=0.72$
0-10	$r=0.87$	$r=-0.23$	$r=0.83$	$r=-0.33$
10-100	$r=0.61$	$r=0.63$	$r=0.94$	$r=0.62$
100-1000	$r=0.18$	$r=0.68$	$r=0.84$	$r=0.81$
1000+	$r=0.88$	$r=0.50$	$r=0.81$	$r=0.93$

Key Findings

User behaviors that correlate to user happiness

- Identified very granular engagement patterns that correlate with user happiness

Example:

- search success (findability)
 - Mobile apps adoption
- Identified which engagement patterns are true to all vs. some segments and cohorts

Example:

- content creation matters a lot for very small and very large instances, less so for medium size

Now that we established
which behaviors
correlate with user happiness,
what do we do?

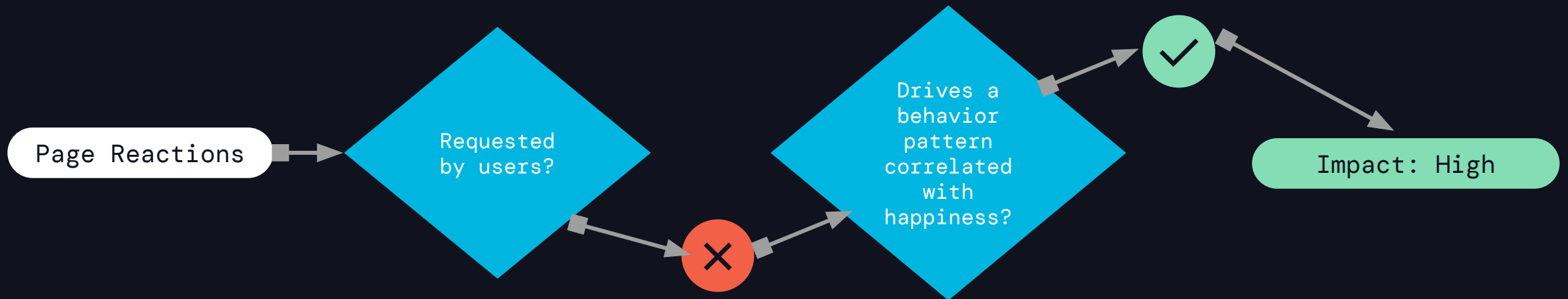


Data --> Action

Rameil's analysis helped us hypothesize about a projected impact capabilities are going to have on user happiness

Example of Impact Estimate Change

Especially helpful for capabilities not captured in qualitative feedback and research



From Insights to Plan

Balancing autonomy and alignment

1. **Engagement scoring** methodology for product teams to estimate projected impact as high, medium, low
2. **Paired with other signals** about user impact, such as qual/quant user feedback inputs, frequency of usage etc.
3. **Educated all teams to adapt** the resulting scoring model and introduced it as a ritual into team's quarterly "Rolling 4" planning
4. **Analytics instrumentation templates** that automatically track roll-outs and allow us to evaluate accuracy of our impact projections

Example of Getting it Right

Roll-out of Confluence Home 1.5

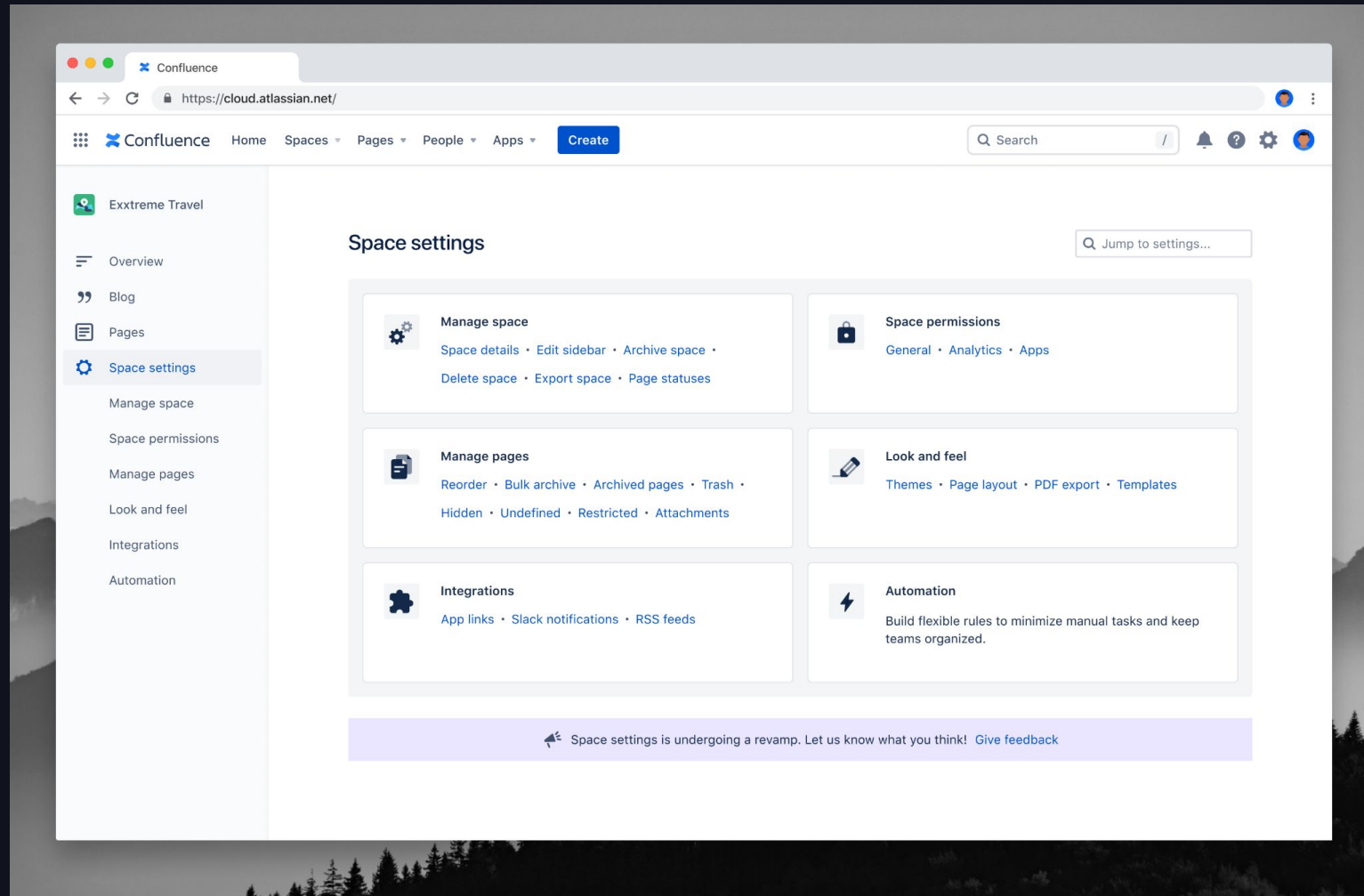
The screenshot displays the Confluence Home 1.5 interface. At the top, there is a navigation bar with the Confluence logo, a search bar, and a 'Create' button. Below the navigation bar, the main content area is divided into several sections:

- User Profile:** Located on the left, it features a profile picture of DJ Chung, his name, and a 'Go to personal space' button. Below the profile are navigation links for Overview, Recent, Starred, and Drafts.
- Recent:** A central section listing recently visited items: 'Beyond Gravity' (visited 30 seconds ago), 'Marketing' (visited 34 seconds ago), 'Projects' (visited 1 minute ago), 'Guide to galaxy' (visited 1 minute ago), and 'Q1 Budget Planning' (visited 1 minute ago). A 'Show more' link is at the bottom.
- Activity:** A section with tabs for 'Following' and 'Popular'. It shows a comment by Jacob Brunson on 'Team bonding ideas' from December 15, 2021, with 4 recent actions. Below it is another comment by Jacob Brunson about 'The French Laundry'.
- Right-hand Sidebar:** Contains a 'Spaces' section with a 'Create a space' button and a list of spaces: 'DJ Chung', 'Q1 Engagement Campaign', 'Teams in Space', 'Guide to Galaxy', and 'Very Important Client Project'. Below this are sections for 'Announcements' and 'Calendars', each with a right-pointing arrow.

At the bottom left, there is a 'Give feedback' button.

Example of Getting it Wrong

Under-indexing on an Admin capability influencing end users



Parting Thoughts

In case you're thinking of a similar initiative

- **Timeline** – it took us a few quarters to go from the start of the research to full operationalization for a team of 350+ people
- **Robust user happiness data** is key for an exercise like this – start collecting it early
- **Education takes long** – we drove a massive effort socializing our learnings and teaching teams how to adopt the engagement scoring
- **Hypothesis validation instrumentation** – we are still in this part of the journey, but it's been rewarding to be able to test our projections and close the loop

Happy users are all alike;
every unhappy user
is unhappy in their own way



Leo Tolstoy
Aspiring Data Scientist

DATA+AI
SUMMIT 2022

Thank you



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