Microsoft Clarity: Heatmap & Behaviour Analysis Case Study

Analyzing user interaction patterns and UX insights from Clarity demo data

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Clarity by Microsoft

Objective & Scope

What this case study covers

Objective
To understand how users engage with the Microsoft Clarity demo site and identify user experience pain points and behavioral patterns.

Scope:
- Time frame: April 25 – May 1, 2025 (7 days)
- Devices: PC and Mobile
- Browser and OS: All included
- Tools: Heatmaps and Session Recordings

Approach highlights:

- Initially tested filters in Clarity's demo data for:

  a: Location (Nigeria)
  b: Browsers (Chrome, Edge)
  c: Various OS types

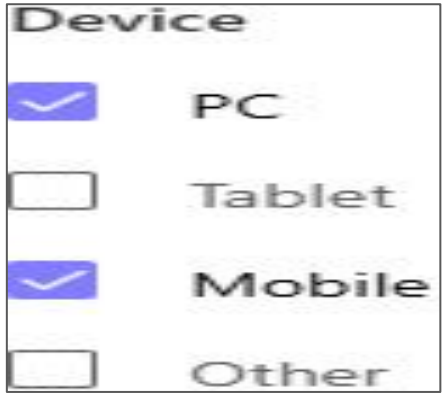
- Found little to no usable data from those filters
- Broadened the scope to global PC and Mobile sessions during the selected week

Goal
The goal was to translate user behavior data into product-level UX recommendations that could guide internal product reviews or even inspire a public update.

As an aspiring product manager, I approached this as a real-world assignment.

This mirrors how PMs often work, balancing ideal research conditions with the reality of available data. Despite limited local insights, I pivoted to analyze global sessions to ensure the study remained meaningful and actionable.

Applied timeframe and device filters for user insight



Methodology

How the analysis was done

Heatmap analysis:

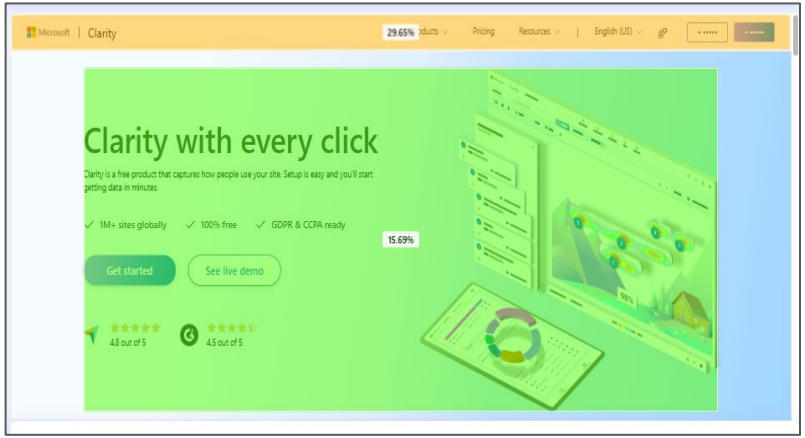
- Reviewed the full homepage, including the navigation bar, hero section, content blocks, sidebars, and footer.
- Used Clarity's Area insights to identify high-click zones and areas with low engagement across the page (see right).
- Noted several instances where users clicked on elements that were not interactive, revealing unclear design signals.
- Observed one modal that appeared automatically during filter customization. Although it wasn't visible in screenshots, Clarity's sidebar insights showed high user interaction with it.

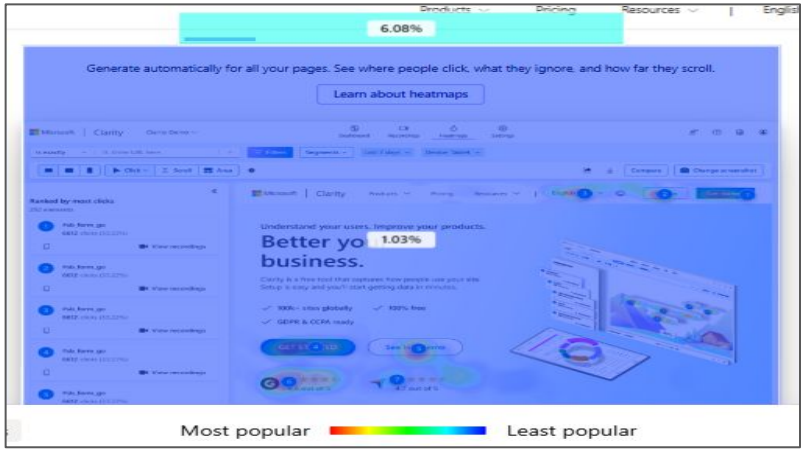
Session recordings:

- Analyzed a total of 5 sessions, with 3 on PC and 2 on mobile.
- Looked for patterns such as rage clicks, hesitation, navigation loops, repeated interactions, and user's drop-off point.
- Observed how users explored the page, scrolled, paused, or became confused.

Why this matters: Combining heatmaps with sessions replays provided a much clearer picture of how users actually behaved, like, what caught their attention, where friction occurred, and where their expectations were not met. This level of insights goes beyond what traditional metrics alone can reveal.

Area insights in Clarity with high-click zones, ignored areas





Heatmap Behavior Insights

Key patterns and insights from the Heatmap

High engagement zones:

- Sign in: 8,082 clicks (17.87%)
- Sign in with Google: 6,749 clicks (14.92%)
- Sign in with Microsoft: 3,165 clicks (7.00%)
- Get started: 2,584 clicks (5.71%)

Most user interaction happened in the hero section, navigation bar, and login modals. These areas drew the bulk of engagement, especially on the first visible screen.

Scroll depth drops sharply after the fold, indicating that most users either completed their goal or drop off early. Interaction beyond the initial view was minimal.

Note on login modals

Some modals, such as “Sign in with Google,” did not always appear during heatmap sessions. But, sidebar metrics revealed significant user engagement with these elements. It remains unclear whether users manually closed the modal or if it disappeared automatically.

Low engagement zones:

- Footer links (social media): 1 click (approximately 0.00 %)
- Sidebar items (shipping, content, logos): 1 click (approximately 0.00 %)

These areas were visible on the page but received virtually no user interaction. This suggests that users are deprioritizing them, possibly because of weak visual hierarchy, low perceived relevance, scroll fatigue, or dense content. These sections are not hidden; they simply fail to capture user attention.

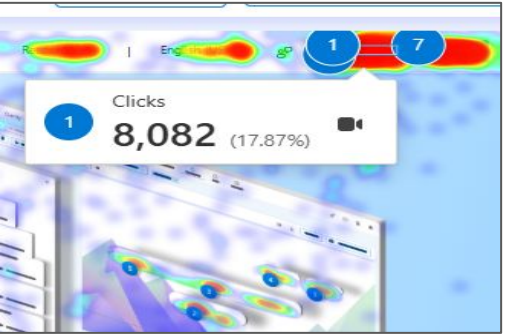
Recommended placement for “Explore Case Studies” CTA:

- To maximize visibility and engagement, the “Explore Case Studies” call to action should be positioned directly beneath the hero section, where user interaction is most concentrated. Placing it here aligns with natural scroll patterns and ensures it appears within the initial focus zone for most users.

- For visitors who scroll further down the page, consider adding a secondary call to action midway through the product features section. This can help capture attention from users who are engaged with deeper content but may have missed the initial prompt.

Heatmap Analysis Screenshot

High engagement zones

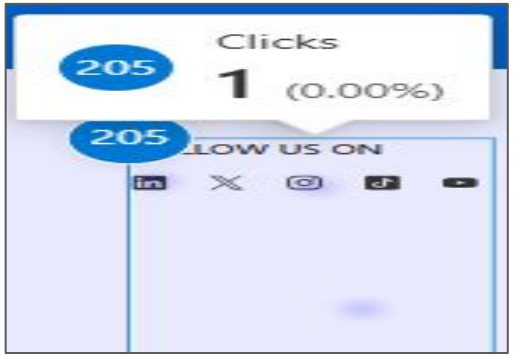


Sign in CTA

Modal sign up CTAs sidebar metrics

Get started CTA

Low engagement zones



Footer links

Sidebar items

Explore case studies CTA

Session Recordings: User Behavior Analysis

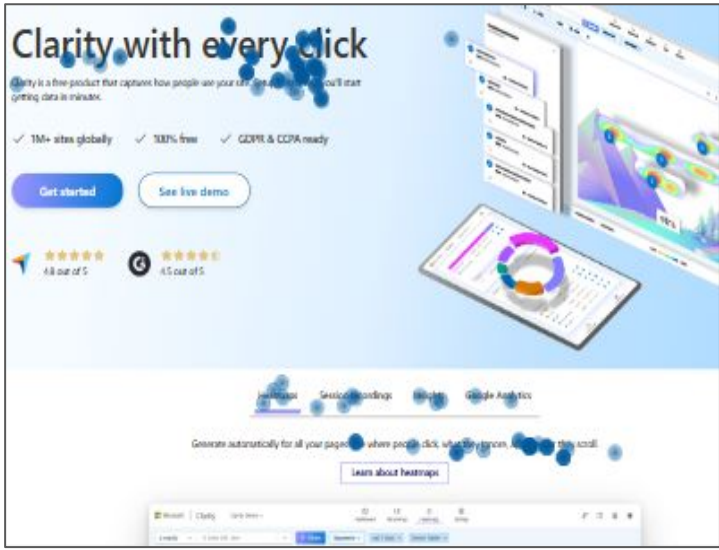
Key observations and insights from user sessions

Session summary:

- Sessions analyzed: 5 (3 on desktop, 2 on mobile).
- Selection criteria: Sessions lasting at least one minute and including at least five clicks
- Focus areas: Patterns of interaction, points of confusion, and moments when users dropped off.
- Similar patterns were observed across desktop and mobile, providing consistent insights into user experience on different devices.

User behavior insights:

- Most user clicks concentrated in the hero section and product features, but engagement decreased sharply once users scrolled past the initial view.
- Dead clicks, text selection, and rage clicks were noted in several areas, especially around visuals or banners that appeared interactive but were not.
- None of the users reached the footer of the homepage, indicating a significant drop in scroll activity.
- Three out of five users exhibited back-and-forth navigation and visible hesitation, suggesting friction in finding their way through the page.
- Both desktop and mobile users faced similar challenges, even though the devices differed.
- Many users hovered over or attempted to click elements that looked interactive but were static, highlighting issues with affordance and unclear visual signals.



PC users interaction insight

Mobile users behavior insight

Session Recordings: UX Issues, Suggestions & Hypothesis

Observed friction patterns

Where users struggle:

- Users clicked repeatedly on static hero text, suggesting that it appeared interactive even though it was not.
- Text and image blocks located just below the product features caused long pauses and instances of users backtracking through the page.
- Mobile users faced difficulties with sliding visuals and attempted to interact with elements that were not actually clickable.
- There were repeated instances of dead clicks, rage clicks, and text selections across all five sessions, pointing to unmet user expectations.
- None of the users scrolled to the bottom of the homepage, which could indicate disengagement or that the page felt overwhelming or too dense.

Suggested improvement for the page

How to improve user experience:

- Make sure clickable elements are clearly defined through consistent visual cues such as hover states, buttons, or underlined text.
- Simplify the image and text sections below the product features by breaking them into smaller, easy-to-scan blocks.
- Remove or redesign visuals that are not interactive but might be mistaken for calls to action.
- Reassess the use of sliding visuals on mobile devices and consider replacing them with static images to improve clarity.
- Add a sticky call to action or an onboarding prompt after the product features section to help guide users toward the next step.

User experience hypothesis

If users mistake static content for interactive elements, it will likely cause frustration, increase dead clicks, and lead to early drop-off, particularly around the product feature section.

A/B Test Ideas & Final Recommendations

A/B test opportunity

Suggested A/B Test to address UX issue:

Version A (Current):

- Static hero text
- No call to action after the product features section
- Sliding visuals remain in place

Version B (Test):

- Apply consistent styling for all interactive elements, such as buttons and underlined text
- Break up image and text blocks with clear spacing and headings for better readability
- Replace sliding visuals with static images to reduce user confusion
- Add a sticky call to action below the product features section

Success Metrics:

- Increase in click-through rate for calls to action
- Reduction in dead clicks and rage clicks
- Higher scroll depth beyond the product section
- Longer session durations

Final recommendation

Actionable next steps to improve UX and engagement:

- ✅ Use consistent visual cues, including hover states, underlines, and buttons, to make clickable elements obvious.
- ✅ Redesign or remove static elements that look like calls to action, especially near the hero section and product features.
- ✅ Simplify dense image and text blocks by breaking them into smaller, more readable sections.
- ✅ Place the “Explore Case Studies” call to action directly below the hero section for better visibility.
- ✅ Add a second call to action after the product features section to engage users who scroll further down the page.
- ✅ Replace sliding visuals on mobile devices with clear static images to reduce friction and confusion.
- ✅ Consider implementing a subtle sticky call to action for mobile users or after the product features section to help guide users who continue scrolling.
- ✅ Run an A/B test with the improved layout and monitor results for changes in click-through rates, scroll depth, and session duration.
- ✅ Ensure key modals, such as login options, remain visible until users choose to close them, whether they appear automatically or through user interaction. This will help reduce confusion and improve the onboarding process.