Question 2: Analysis of PDP Heatmap **Product‑Detail Page (PDP) Heat‑Map Analysis – Mobile View**

*(focus on first‑screen content; five key interaction zones identified)*

| **#** | **Heat‑Map Observation** | **Behavioural Hypothesis** | **Potential Impact on Add‑to‑Cart** | **Data Needed to Validate / Deepen Insight** |
| --- | --- | --- | --- | --- |
| **1** | **Dense clicks on “SAVE XX” coupon strip (very top banner)** – especially the green coupon code badge. | Shoppers interpret the banner as a tappable promo field allowing them to *apply* or *copy* the code. They may also believe the mattress coupon applies to the pillow. | *Positive*: Shows high promo affinity. *Negative*: If the element is non‑interactive or irrelevant to pillows, it can create friction, divert attention—ultimately lowering pillow add‑to‑cart (ATC) likelihood. | • Tap‑level funnel: % of taps that open a new page vs. dead‑clicks. • Session replay to detect “rage clicks” (≥3 taps in 3 s) on the banner. • Segmented revenue impact analysis (pillow vs. mattress) from banner‑tap sessions. |
| **2** | **High click concentration on hero text “Get 15 % Off”** (overlaying sleeping image). | Users assume the discount headline is a CTA (e.g., opens pricing modal or reveals code). The copy affords action although the text itself isn’t (or shouldn’t be) clickable. | If taps yield no response, perceived site breakage reduces trust → drop‑offs before reaching ATC. Conversely, routing those taps to the price/variant selector may accelerate purchase intent. | • Dead‑click heat‑map layer (no‑URL / no‑event taps). • Correlation between hero dead‑clicks and bounce / scroll‑depth to ATC. • A/B test variant where hero text scrolls to price block or opens sticky ATC; measure lift in ATC CTR and conversion. |
| **3** | **Clustered taps on product title, star rating ★★★★★, and “301 Reviews” link**. | Visitors seek social proof and detailed reviews early in the journey; they may intend to scroll to the review section faster than the UI allows. | *Positive*: Strong interest in credibility signals—can boost purchase likelihood *if* reviews are accessible. *Risk*: If tap merely reloads page (or does nothing). | • Link‑event tracking: % of taps that jump to review anchor vs. page reload. • Scroll‑to‑review latency (time & pixels) after tap. • Compare ATC rate for sessions that view ≥3 reviews vs. 0. |
| **4** | **Pronounced clicks on icon row (“1XX‑Night Trial”, “Lifetime Warranty”, “Made in USA”, “Free Shipping & Returns”)**. | Icons are perceived as gateways to deeper policy details (e.g., terms of trial). Users want reassurance before commitment. | If icons aren’t interactive or open generic pop‑ups, perceived opacity may stall checkout ⇒ lower ATC. Turning them into concise, trust‑building modals could shorten decision time. | • Event log: icon taps → modal open vs. dead click. • Compare ATC velocity (# of steps & seconds to ATC) for sessions that view policy details vs. those that don’t. • Cohort test: interactive policy modals vs. static icons; measure lift in ATC and return rates. |
| **5** | **Moderate yet distinct taps on hamburger menu, phone, and chat icons** (header utilities), but *very few* observable taps on CTAs further down (price or variant picker not yet in viewport). | Users who can’t find critical info quickly resort to support channels or navigation—signals friction in PDP content hierarchy. Missing immediate price/variant/ATC above the fold forces deeper scroll. | Support‑seeking detours prolong the path to ATC and risk abandonment if answers aren’t immediate. A sticky ATC bar or pricing teaser above the fold could recapture intent sooner. | • Scroll‑depth & time‑to‑first‑ATC‑view metrics. • Conversion differential for sessions triggering chat/phone vs. not. • Heat‑map after introducing sticky ATC bar: does interaction shift from header utilities to ATC? |

Question 3: Analysis of Exclusive Discount Popup A/B Test Results 1. Funnel Context

| **Stage** | **Typical Puffy experience\*** | **Where the mystery‑discount e‑mail pop‑up acts** |
| --- | --- | --- |
| 1. Traffic / Homepage | Paid & organic visitors land on home or landing pages | — |
| 2. Engagement / Product Discovery | Users scroll, click “Shop Now”, view Mattress PDPs | Pop‑up triggers on exit‑intent or after x seconds |
| 3. **Lead Capture** | Visitor enters e‑mail (and sometimes phone) → becomes a subscriber | **Test treatment:** “Spin‑to‑reveal mystery % off” incentive |
| 4. Add‑to‑Cart | Click “Add to Cart / Buy Now” on PDPs | — |
| 5. Checkout | Fills checkout; discount code redeemed if provided | — |
| 6. Purchase / Thank‑You | Order placed; fires “Unique Conversion” event | — |
| 7. Post‑Purchase | Welcome‑series & subsequent flows drive LTV | Pop‑up quality influences list engagement |

2. Key Data‑Driven Inferences

| **#** | **Insight** | **Why it matters in the funnel** |
| --- | --- | --- |
| **1** | **E‑mail‑only sign‑up rate rose +18.8 %** (1.56 % → 1.86 %; +0.30 pp) but *p‑value ≈ 0.24, not yet significant*. | Promising widening of the very top of funnel, but volume (≈ 23 k visitors) is still too low to confirm. |
| **2** | **Phone‑number capture fell ‑32 %** (0.86 % → 0.58 %). | Fewer SMS leads may shrink a high‑ROI channel; trade‑off must be weighed. |
| **3** | **Down‑funnel purchase rate flat** (1.545 % → 1.543 %; essentially 0 % change). | Extra e‑mail sign‑ups did **not** translate into immediate incremental orders during the test window. |
| **4** | **Revenue per visitor ↓ 8.8 %** and **AOV ↓ 5.3 %** (both statistically inconclusive, but directionally negative). | Possible reasons: larger‑than‑usual discounts cannibalised margin, or incentive attracted lower‑intent shoppers. |
| **5** | **PDP Add‑to‑Cart + Buy‑Now click‑through fell ~3 % overall.** | Suggests the pop‑up may distract some shoppers from product exploration. |

3. Additional Data Needed

| **Desired metric** | **Why it unlocks deeper insight** |
| --- | --- |
| **a. Redemption‑rate & average %‑off of the mystery codes** | Quantifies margin impact and links the pop‑up directly to order‑level behaviour. |
| **b. Welcome‑series performance for new leads (open, click, placed‑order rates, 30‑day revenue/LTV)** | Determines whether the extra e‑mail sign‑ups are high‑quality and if value materialises after the test window. |
| **c. Visitor segmentation (new vs. returning, paid vs. organic traffic)** | Tells us *who* responds to the incentive and whether cannibalisation occurs among warm prospects. |

4. Recommendation & Next Steps

1. **Do *not* roll the mystery discount site‑wide yet.**
   * Uptick in raw e‑mail sign‑ups is encouraging but still statistically weak, while early revenue/AOV signals are negative.
   * Retain the current pop‑up as a 50/50 experiment and continue until ≥ 90 % power on the sign‑up metric (*≈ +17 k additional visitors per the sample‑size projections in the file*).
2. **Iterate on lead‑capture design – low‑hanging fruit:**
   * **Make phone optional but prominent** (checkbox or second step) to recover SMS opt‑ins lost in the test.
   * **Cap the mystery discount ceiling** (e.g., 10 – 15 %) and A/B test against a transparent fixed 10 % coupon to protect margin and compare perceived value.
3. **Instrument the missing metrics (Section 3).**
   * Push coupon‑code attributes to the order object so revenue‑per‑coupon can be analysed.
4. **Quick win outside the pop‑up:** leverage the new subscribers immediately:
   * Add an “expires in 48 h” reminder e‑mail + SMS to the Welcome flow to convert the incremental leads while urgency is fresh.

**Rationale.** The current data show that the pop‑up **may** widen the funnel’s mouth, but little (or even negative) evidence of incremental bottom‑line value yet. Extending the test while tightening discount economics and restoring SMS opt‑ins preserves upside potential and limits downside risk across all funnel stages.

Question 4: Process and AI Usage

* **Initial Research:** After reading the case study thoroughly, I conducted targeted research on e-commerce funnel analytics. I reviewed industry articles and academic research, then used **GPT-4o** to summarize key findings from papers. I compiled a one-pager of key concepts and metrics to guide my analysis.
* **Question 1 – Funnel Analysis:** I used **PyCharm** as my primary IDE and integrated **Claude 4.0** for AI-assisted coding. Claude helped create initial preliminary SQL and Python boilerplate code, which I manually reviewed and optimized. I used **Python** for data cleaning and visualization, and **SQL Server Local DB** for querying and transforming the dataset to extract conversion insights.
* **Question 2 & 3 – PDP & A/B Test Analysis:** For the PDP heatmap, I manually interpreted the visual to identify behavioral patterns. I used **GPT-3.5 Pro** to generate an initial answer, then refined it with my own observations and additional hypotheses not captured by the model. For the A/B test, I used **Python** to plot and analyze data related to the "Exclusive Discount Pop-up."
* **Final Edits:** I used **GPT-4o** for grammar correction, sentence tightening, and formatting, ensuring a polished and professional final submission. All strategic decisions and insight generation were human-driven.