# Part 1: Ideation

## Idea 1: Al Price Forecast

#### **Problem It Solves:**

As a user, I want to know if now is the right time to buy a specific item. Prices on Zap change frequently due to discounts, stock levels, and seasonality. Today, I can compare current prices but I can't predict future ones. This uncertainty causes hesitation, missed deals, or overpaying.

#### Solution:

Add a 7-day price forecast directly to product pages, powered by machine learning models trained on historical pricing, seller behavior, and calendar signals (e.g., holidays, known sale periods). Users can track items, set a desired price, and receive alerts when the system detects meaningful drops or when current conditions match their target.

#### **How It Works:**

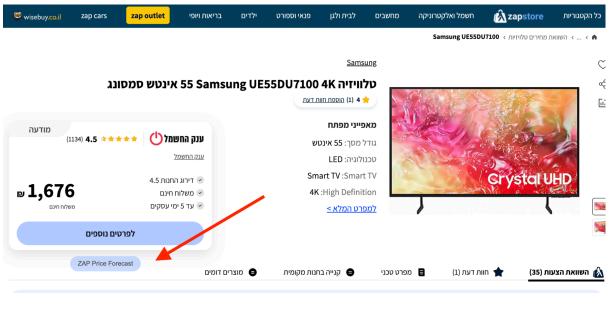
- Data collection: Continuously gather historical prices, stock indicators, past promotion patterns, seller reliability signals, and time-related features (holidays, seasonality).
- Forecasting: Use ML models to predict the price trajectory over the next 7 days, estimating direction (rise/fall/stable).
- Signal generation: Translate the forecast into user ready recommendations like "Buy now," "Wait ~2 days for ~5% drop," or "Price likely stable."
- Tracking & alerts: User enters a target price and phone number. The system compares real-time and forecasted prices and notifies the user if current price meets or beats the target.
- Feedback loop: Record actual outcomes versus forecasts to recalibrate model confidence and improve future accuracy.

## Where It Appears:

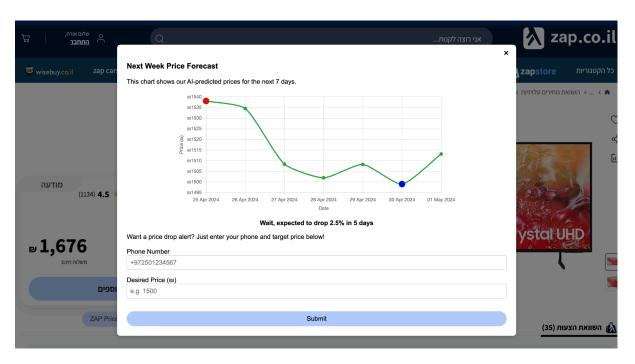
On product search results page:

- A "Al Price Forecast" button appears below the product price.
- Clicking opens a compact popup showing:

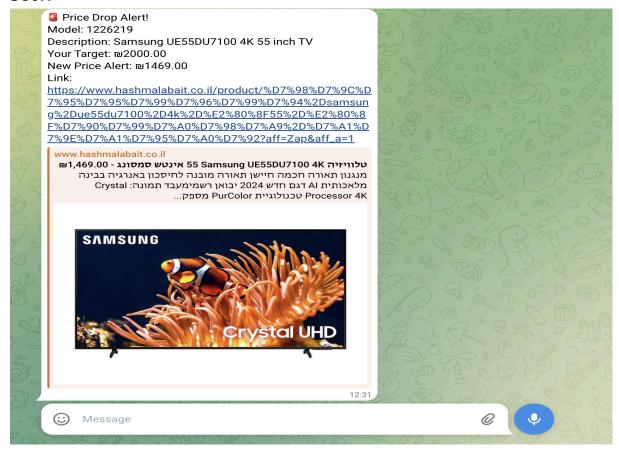
- o 7-day price forecast chart.
- o Recommendation summary (buy vs wait) with confidence.
- Input fields for desired price and phone number.







#### **User:**



## **Expected Impact:**

- Increase return visits for tracked products.
- Improve conversion by reducing user hesitation with timing guidance.
- Enhances user satisfaction through smart savings, and drives higher return rates to the Zap platform.
- Drive higher engagement with the platform (alerts, tracking).

## **Competitors:**

<u>Keepa</u>: Tracks historical prices and sends alerts when a product hits a target, letting shoppers infer the best time to buy.

<u>CamelCamelCamel</u>: Monitors Amazon price history and notifies users of drops so they can decide whether to buy now or wait.

## Idea 2: ReviewSense

#### The Problem It Solves:

Users are overwhelmed by long, unstructured reviews. It's hard to sift through dozens of comments to understand what actually matters, what's great, what's broken, and which aspects are consistently praised or criticized. That leads to decision fatigue, lower confidence, and slower purchase decisions.

#### Solution:

Automatically distill raw review text into a concise, actionable summary. ReviewSense uses NLP to surface the most important positives and negatives, organize feedback by product attributes, and highlight consensus, so users get the signal without drowning in noise.

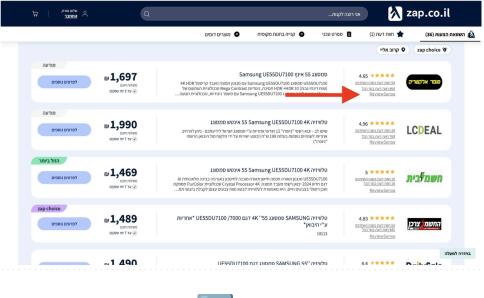
#### **How It Works:**

- Aggregate all available reviews for a product from Zap and linked merchant sites.
- Deduplicate, normalize language, weight reviews by recency and credibility.
- Use NLP models to identify and categorize comments into product attributes (e.g., sound quality, durability, customer service, battery life).
- Select and display the top 3 pros and top 3 cons based on a combination of sentiment strength and prevalence. Include representative short excerpts or phrase highlight.

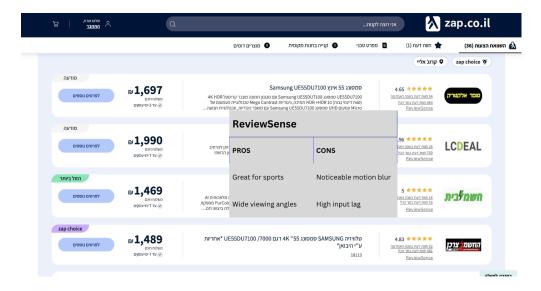
### Where It Appears:

On the products page, directly under the star rating and the "User Reviews" heading, each product shows a button labeled "ReviewSense"

 On click: Opens a popup containing, table of Top 3 Pros / Top 3 Cons distilled from all reviews.







## **Expected Impact:**

- Distilling raw reviews into core insights reduces research time and accelerates the path from seeking to buying.
- Drives frequent return visits by making ReviewSense the go to spot for reliable, concise review summaries.
- Users interact with review summaries and drill downs instead of bouncing.

## **Competitors:**

<u>Bazaarvoice</u>: uses NLP/LLMs to aggregate and distill raw review text into concise pros/cons and attribute-level sentiment summaries so shoppers instantly see consensus and key themes.

<u>PowerReviews</u>: builds a compact snapshot of reviews, highlighting top positives/negatives, rating distributions, and most helpful excerpts, so buyers get the signal without digging through every comment.

## Idea 3: AskZapAl

#### The Problem It Solves:

Shoppers have specific, nuanced questions "Is this TV good for gaming in a bright room?", "How does this model differ from X?", and must manually sift through specs, reviews, and comparisons. That creates friction, delays decisions, and leads to drop offs.

#### Solution:

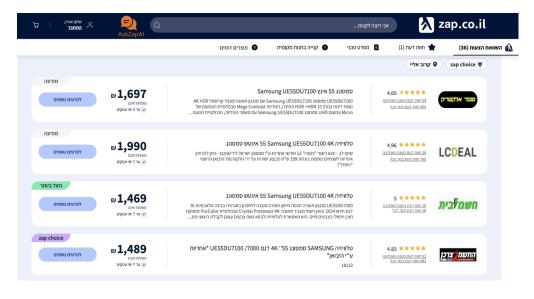
Embed an AI powered natural language assistant that understands user intent, retrieves and summarizes relevant information for Zap data bases (best selling items, trending items etc.) across reviews, specs, FAQs, and similar products, and gives personalized, actionable answers in real time.

#### **How It Works:**

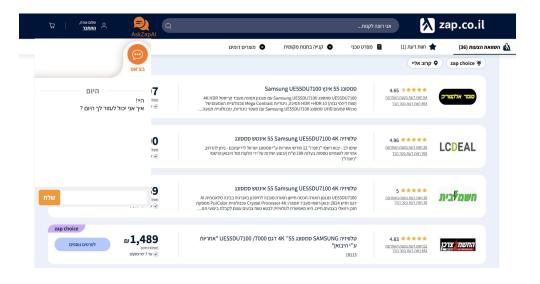
- User types or speaks a question. The system infers context (current product, past browsing/purchase history, session behavior).
- Use vector embeddings to search across structured data (spec sheets, Q&A, comparisons), unstructured content (user reviews, help articles), and catalog metadata to pull the most relevant snippets.
- A learned relevance model (e.g., fine tuned transformer or gradient boosted ranker) orders candidate answers based on question type, freshness, and user profile.
- A retrieval augmented generation LLM composes a concise, factual answer, citing key points.
- Adjust recommendations using user embeddings.
- Offer one click follow ups like "Compare to model Y," "Show pros/cons for gaming vs movies," or "Is there a cheaper alternative with similar features?"
- Conversation history stays in view during session.
- Option to expand/collapse without losing context.

### Where It Appears:

- Persistent circular "AskZapAl" button visible on every page, positioned next to the search text box.
- Click opens a conversational window.







## **Expected Impact:**

- Users get answers instantly, cutting decision time and increasing impulse/completion rates.
- Users return to Zap as a trusted advisor, even when just researching, improving lifetime value.
- Conversation data feeds personalization, assortment decisions, pricing strategy, and marketing segmentation.
- Capturing new user intent from AskZap conversations and feeding it back into the models continuously improves our Al's accuracy and reliability.

### competitors:

<u>OpenAl's ChatGPT Agent</u>: an embeddable, conversational agent that can be tuned with retrieval-augmented generation to answer nuanced product questions in real time (e.g., comparisons, suitability for use cases) by pulling from specs, reviews, and contextual signals.

Al Mode with Gemini: uses generative Al to understand detailed shopper queries, summarize relevant product information, surface comparisons, and provide actionable recommendations directly in search/shopping experiences, effectively acting as a natural-language product concierge.