
A Room with a View: Understanding Users' Stages in Picking a Hotel Online

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Abstract

We describe how we built a model for user decision-making during local search tasks, specifically hotels. We differentiate between affective and functional needs and identify the following stages and related information needs: 0. Lay of the land; 1. Generating options; 2. Scanning for attractors and detractors; 3. Due diligence. We contrast this framework with existing consumer decision-making models. We close by describing how this model influenced the development of the recently launched experiment, Google Hotel Finder.

Keywords

Local search; consumer decision-making; online search

ACM Classification Keywords

H.5.2. [User Interfaces]: User-centered design;

General Terms

Design, Human Factors

Introduction

A quick comparison of a set of typical local searches, such as 'shops', 'bars', 'restaurants', 'hotels' shows that searches for hotels were the most frequent of this group in the US in 2010 [2]. Yet choosing a hotel

should be less frequent than choosing a restaurant: for 3-day trip, a traveler might choose 3 restaurants, but stay at only 1 hotel. The disproportion of hotel queries piqued our interest. Were multiple searches required to make a decision about a single stay? We chose to investigate further. Our goal was to develop a model of decision-making for hotel search tasks, identifying discrete stages and the information they required.

Background

Consumer decision-making has been a topic of research for a considerable time [3]. Existing models focus on product purchases and largely investigate the antecedents of purchase decisions in supermarket aisles (low involvement) or at car dealerships (high involvement). One well-known recent model is 'The Consumer Decision Journey' by McKinsey [1]. Motivations for consumer purchasing are also detailed in Paco Underhill's *Why We Buy: The Science of Shopping* [5]. However, both focus on consumer goods, and there are two key differences in hotel decision-making. First, a user searching for a hotel has typically already made the decision to buy a hotel room. Second, while consumer goods have highly standardized prices and features, hotels have fluctuating prices and availability, making comparison more complex.

There is some existing research about the specific subset of hotel searches. PhoCus Wright have created a multi-stage model of travel decision-making, including hotel choices [3]. Yet, this research is not publicly accessible, and does not give detailed qualitative insights into the role of online information.

Method

We invited 9 participants, who regularly book hotels, to our lab. Participants were of mixed gender, age, and socio-economic status. We asked participants to talk us through a recent hotel booking experience, starting broadly: what was the occasion, when did it happen, how was the plan formed. When online tools or online information gathering were mentioned, we asked participants to demonstrate what they had done. We recorded participants' commentary as well as their actions on the screen.

Findings

FUNCTIONAL NEEDS. Across most interviews, we saw location or ease of access traded off against **price** and quality. Personal (e.g. price sensitivity) and situational (e.g. business vs. leisure trip) conditions determined the size of the margin for trading off. **Location** was typically referenced by neighborhood name or proximity to an event, office location, or landmark. **Quality** was typically estimated by hotel class stars; many participants categorically discarded hotels below a specific star level (which varied by price sensitivity).

AFFECTIVE NEEDS. Hotel searches can be tiresome, but we observed two rewarding aspects or behaviors: (1) finding a **great deal** (not necessarily cheapest, but cheaper than other options of similar quality) and (2) **imagining** how nice it would be to stay at a place. Important here are great photos, not too many negative reviews that ruin even a decent choice, and evocative editorial write-ups.

0 Lay of the Land

What are good areas? What are safe neighborhoods? Seek advice from friends or guidebooks.

1 Generating options

Quickly trade off location and price, and discard low quality candidates.

2 Attractors & Detractors

Skim for serendipitous recognition, rather than recall. Photos also give important implicit signals.

3 Due diligence

Performed on a few promising options. Verify across different sources, and with friends or travel companions.



Figure 1: 4 stages of hotel search

STAGES. Across participants we could see stable stages of decision-making (Figure 1). Note that these stages are typically done in multiple sessions, spread over days or weeks.

Stage 0. Lay of the land. Users pass through this stage only if they have not been to the place before or know little about it. They read guidebooks, ask friends, or look online to learn desirable areas and available parameters (e.g. what is “cheap” in Bermuda).

Stage 1. Generating options. There are numerous strategies and tools for this stage. A good tool gives the

user the sense that all available options are included (no one wants to miss out on a good deal) and then supports quickly trading off location and price, and discarding low quality candidates.

Stage 2. Attractors and Detractors. Users go through results, verifying standard attributes (e.g. price, star classifications, user ratings). They may skim content rather than read the full text. Crucially, they also pay attention to unexpected attractors (positive attributes) and detractors (negative attributes); recognized explicitly in editorial descriptions or user reviews, or implicitly in photographs. Importantly, users could not and did not explicitly state these attributes at the time of search; they work by serendipitous recognition rather than by a-priori recall.

Stage 3. Due diligence. This step is labor-intensive, and only done for a small set of promising options. It requires resources across the web and beyond. If other people are involved in decision-making, they are consulted here: “Is it ok if I book this for us?”

Implementation

The research sketched above led to a number of fundamental design choices for Google’s recently launched Hotel Finder. Below, we step through the stages of our model and map them to some of the Hotel Finder features. We’d like to emphasize that not all of these features are unique to Hotel Finder, and that Hotel Finder is an experimental product, which will continue to evolve.

Affective needs: Hotel Finder compares current rates to typical ones, so users can feel good about having found a good deal. **Lay of the land:** a heatmap helps

users not familiar with an area, highlighting busy areas vs. residential ones. **Location / Price / Quality:** An editable polygon allows filtering on location without requiring detailed knowledge of neighborhood names or boundaries. **Due diligence:** The shortlist allows earmarking for due diligence in Stage 3, without having to re-execute the search.

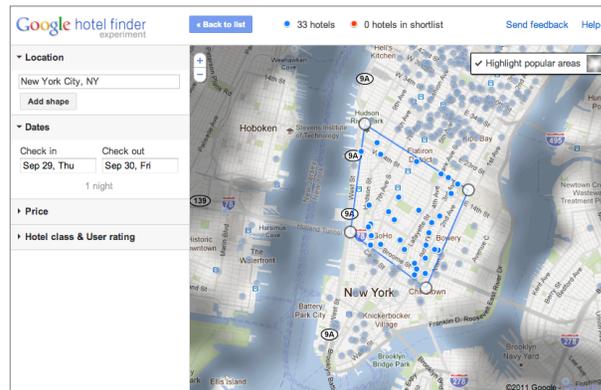


Figure 2: Google hotel finder showing map view

Conclusions

We've illustrated how a research project, relatively small in scope (9 users, lab sessions only) but carefully executed and analyzed, can provide a blueprint for innovative product development. Such a tight integration between development and user research is not typical and we thus thought it important to share our experiences in this case study.

It helped that we communicated findings from the outset as a visually represented framework; that we had evidence for each stage in form of a series of 2-5

second video snippets; and that the model was grounded in our own qualitative work, as well as established published research.

In terms of substantive findings, we want to emphasize that hotel search may bear some resemblance to established models of consumer decision-making, but differs significantly in important aspects, namely fluctuating availability and price; complex trade-offs between quality, price, and location; and finally the nature and availability of information online: user reviews, prices, etc. In terms of future work, we hope to use this model to guide quantitative research.

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References

- [1] Court, D., Elzinga, D., Mulder, S., Vetvik, O. J., The Consumer Decision Journey, *McKinsey Quarterly* (2009). <http://goo.gl/nWWYT>
- [2] Google Insights for Search. *Relative Query Volume for 'hotel', 'restaurant', 'shop', 'gas', 'bar' in the US in 2010*. <http://goo.gl/el2Qe> (Retrieved on 26 Sep 2011)
- [3] Kotler, K. & Keller, K. L., *Marketing Management*, 14th edition, Prentice Hall, Boston, MA, US (2009)
- [4] PhocusWright, *European Consumer Travel Report* (2010). <http://goo.gl/AJ8Fg>
- [5] Underhill, P., *Why We Buy: The Science of Shopping*, Simon & Schuster, New York, NY, US (2000)