

# The Influence of Online Shopping Agents on Consumer Preferences Following Missed Opportunities

Demetra Andrews, PhD  
Department of Marketing  
dandrews2@cob.fsu.edu

## BACKGROUND and PURPOSE

### Prior Research on the Negative Effects of Missed Opportunities

- Consumers who miss sales or discounts and are later presented with an opportunity to purchase the same item at a lesser discount often pass on the subsequent opportunity. The phenomena has been termed “inaction inertia”
- Missed opportunities have been shown to reduce subsequent consumer willingness-to-buy a product or service at the lesser discount, even if the lesser discount still reflects a substantial reduction from the normal price
  - The effect is stronger when the difference between the missed and current price is large (vs. small) (Tykocinski et al. 1995, 1998, 2001)
- Drivers of the effect include experienced regret (Arkes et al. 2002), anticipated regret (Tykocinski and Pittman 2001; Tsiros 2009), and unfavorable comparisons with a reference price (Arkes et al. 2002; Zeelenberg and van Putten 2005; Zeelenberg et al. 2006)

**Purpose:** Despite the pervasiveness of electronic commerce and online shopping, the effects of missed opportunities have not yet been evaluated in an online context. The purpose of this research is to address this gap in our knowledge.

**Motivating Question:** Is the choice depressing effect of missed opportunity exacerbated or alleviated by the use of online shopping aids?

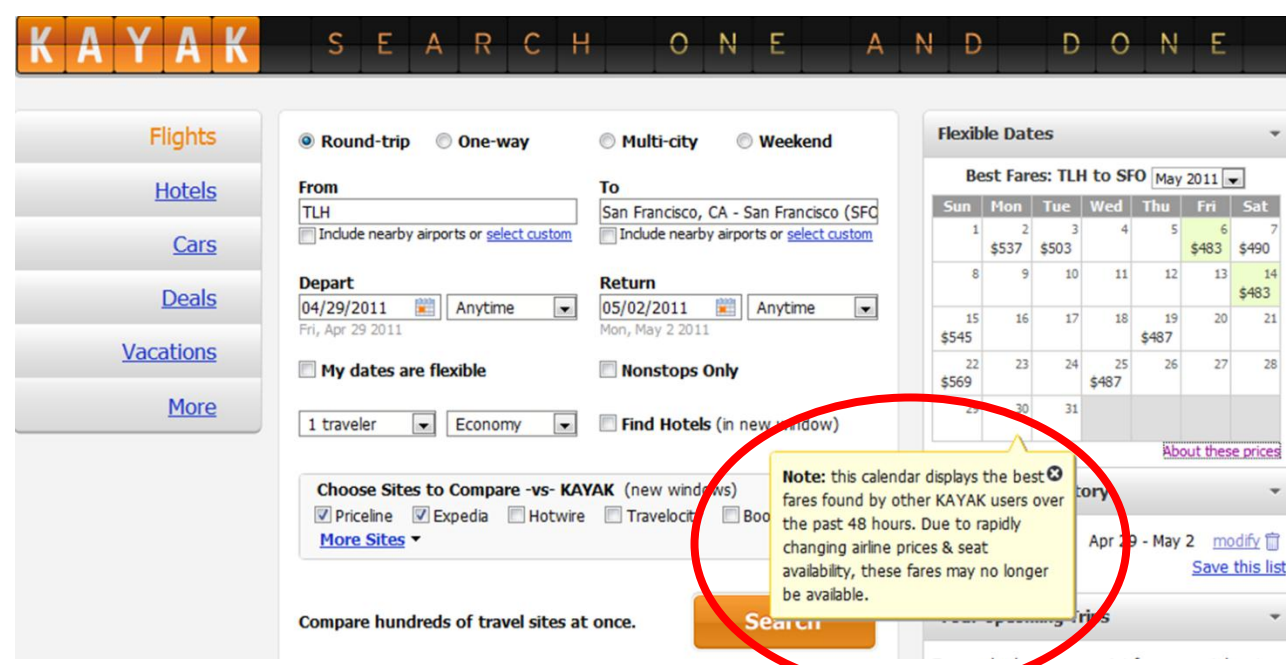
## Examples from Marketing Practice

### Consumer Use of Online Shopping Aids Increases

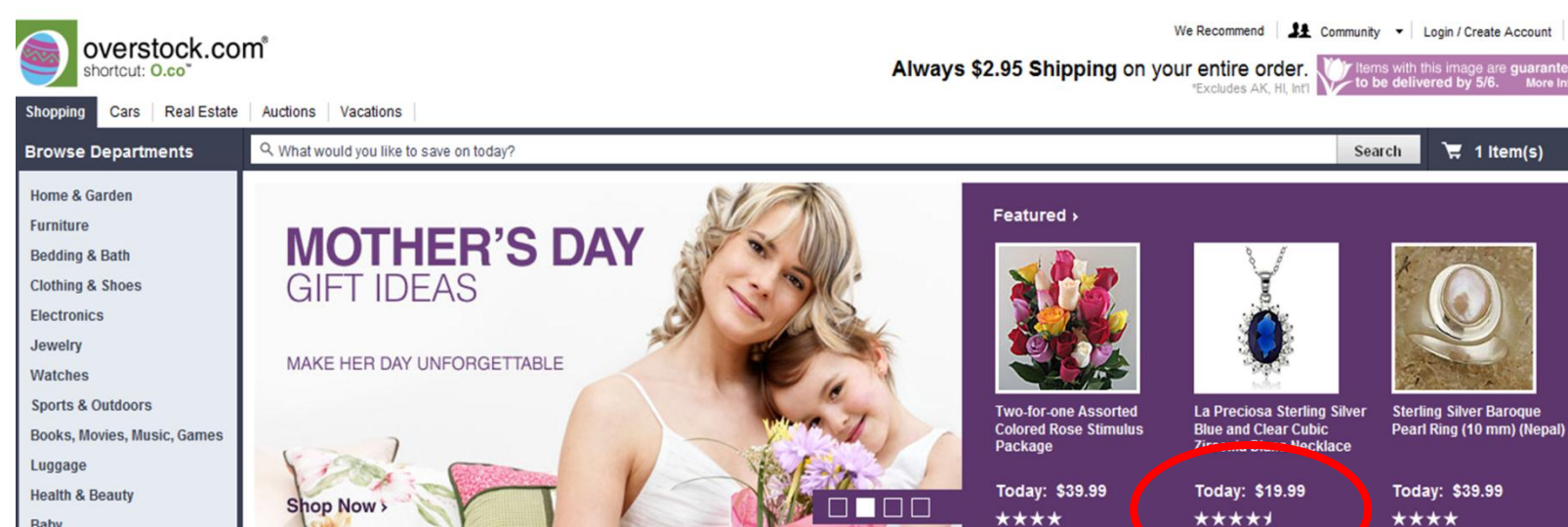
- Consumer use of online shopping aids is on the increase in the U.S.
  - 67MM U.S. Consumers employ online search tools (Fuglioni and Abraham 2008)
  - 46% U.S. consumers used Internet-based comparison websites (Fuglioni 2009)
  - Many consumers rely on the Internet to identify sales and special offers (Fuglioni and Abraham 2008)

### Marketing Practices Increase Consumer Awareness of Missed Opportunities

- Kayak.com: Posts low prices obtained by others regardless of (un)availability



- Increased use of “flash sales” (time-limited sales communicated via Internet) and purchase and/or quality recommendations



## HYPOTHESES

### Hypothesis 1

- Perception of personal responsibility is a key antecedent of regret (Zeelenberg et al, 2000). Use of an online shopping aid reduces the degree of personal responsibility a consumer holds for an action or outcome and, thereby, the regret that is purported to cause people to reject the current offer
  - **When an online shopping aid is employed (versus when one is not employed), consumers will be less likely to reject the current offer**

### Hypothesis 2

- Consumers devote less time and thought to purchase decisions when they employ online shopping aids (Haubl and Trifts 2000)
- Consumer preference tends to favor recommendations made by online shopping aids (Haubl and Trifts 2003)
  - **Revealed consumer preference will reflect recommendations provided by online shopping aids**

## RESEARCH METHODS

- Results from 3 scenario-based, online, experimental studies are reported
- In each study, participants are informed that they have missed a sale on a desired item
- The sale was either missed due to an error by the online shopping aid they are using or to their own error
- **In all studies, when an online shopping agent is employed, it recommends the originally-preferred brand, rating it as good or better than all other brands. This alternative is listed first. (See example below.)**
- Each study employed a 2(online aid: present vs. absent) X 2(discount difference: large vs. small) full factorial design
- **Study 1 (n=131):**
  - Purpose: Investigation of inaction inertia in presence of online shopping aid
  - Context: Purchase of backpack
  - Key DV: Accept or reject current offer on backpack following missed sale
- **Study 2 (n=38):**
  - Purpose: Investigation of inaction inertia in presence of online shopping aid under more realistic context; i.e., when a near-identical alternative is also available at the current price
  - Context: Purchase of a digital camera
  - Key DV: Accept current (higher) price on originally-preferred camera or switch to a) a different, near-identical, brand offered at the same price as the originally preferred brand, b) a different, lower-quality, brand selling at the sale price that was previously missed, or c) reject all offers

### Choice Options Presented in Study 2

You use an online shopping agent to conduct additional research and it finds three cameras on sale at a different store.  
All the cameras have the same regular price.

	Overall Rating	Current Sale Price
Camera "A"	★★★★☆	\$225
Camera "B"	★★★★☆	\$225
Camera "C"	★★★☆☆	\$195

### Study 3 (n=175):

- Purpose: Determine whether consumers prefer quality or price more following a missed opportunity as a function of whether an online shopping aid is employed.
- Context: Purchase of a briefcase
- Key DV: Accept current (higher) price on originally-preferred briefcase or switch to a different brand a) with a lower price and slightly lower rating, b) with a lower price and a substantially lower rating, or c) reject all offers

## KEY RESULTS

### Study 1:

- Logistic regression revealed that the odds that the current offer will be accepted are 1.4 times higher when an online shopping aid is employed than when one is not employed ( $\chi^2 = 6.51, p=0.0356$ ). **This finding supports H1.**

### Study 2:

- A Chi-square test revealed a significant difference ( $\chi^2 = 14.78, p=0.0303$ ) in revealed preferences
- The rate of rejection of all alternatives is lower when an online shopping aid is employed (21%) than when an aid is not employed (37%). **This finding supports H1.**
- When an online shopping agent is employed, consumers indicate greatest preference for the originally-preferred option (58%), despite its higher price
  - When an online shopping agent is not employed, consumers indicate greatest preference for a) rejecting all available alternatives (37%) or b) for switching to a near-identical brand (32%), despite it being offered at the same (higher) price as the brand originally preferred.
  - If an online shopping aid was not employed, consumers were twice as likely to switch to a near-identical brand (32%), than when an online aid was employed (16%). This occurred even though the near-identical brand was being offered at the same price as the originally-preferred brand. **These findings support H2.**

### Study 3:

- A Chi-square test revealed a marginally significant difference ( $\chi^2 = 11.47, p=0.0626$ ) in revealed preferences
- While only 5% of consumers who employed an online shopping agent rejected all available alternatives, 10% of those who did not employ such an agent rejected all alternatives. **This finding supports H1.**
- While consumers, generally, indicated greatest preference for the originally-preferred brand, despite its higher price, 67% of those who employed an online shopping agent opted for the originally-preferred brand that was recommended by the online shopping agent compared to 52% of those who did not employ an online shopping agent. **This finding supports H2.**