

How Does the Use of Trademarks by Third-Party Sellers Affect Online Search?

Lesley Chiou and Catherine Tucker

Occidental College and MIT Sloan

Figure: Organic and sponsored results

The image shows a Google search results page for the query "doubletree san diego". The search bar at the top shows the query and a "Search" button. Below the search bar, it indicates "About 601,000 results (0.40 seconds)".

On the left side, there are navigation links: "Everything", "Maps", "Books", and "More". Below these is a link to "Show search tools".

The main search results are displayed in the center. The first result is "San Diego Hotels - Doubletree San Diego / Mission Valley Hotel, CA...". Below this is a link to "Downtown San Diego Hotels near Zoo - Doubletree San Diego Airport...". The second result is "San Diego Hotel rooms and suites near Sea World | DOUBLETREE CLUB...". Below this is a link to "Driving Directions to Doubletree Club Hotel San Diego". The third result is "Doubletree Hotel San Diego Downtown (San Diego, CA) - Hotel...".

On the right side, there is a section titled "Sponsored links". It contains three sponsored results: "Doubletree Official Site", "Doubletree Golf Resort", and "Doubletree San Diego". Each sponsored result includes a brief description and a link to the Doubletree website.

Arrows point from the text "Main Search Results" on the left to the organic search results, and from the text "Paid Search Results" on the right to the sponsored search results.

This is the results page from a search for “Doubletree San Diego” in Google. The paid search ads appear in the sponsored results sections at on the right side of the page. The main organic or non-sponsored or results appear separately.

The use of trademarks in internet advertising is a controversial question.

- The Internet in particular has facilitated automated search and individualized delivery of ads
 - Resellers of branded products often want to match and personalize their ad to someone's search by using a trademarked brand name
- Brand name trademark holders do not like this
- We study the empirical consequences

Setting

- Trademark Regime
 - Google changes its policy in June 2009 for its search advertising
 - Allowed resellers of goods to use other people's trademarks in the ad copy
 - Other search engines did not change their policies
- Data
 - Comscore data on click through behavior for organic and paid search for top 50 hotel brands in US.
- Method: Diff-in-Diff
 - Difference between click through rates on Google relative to other search engines
 - Difference before and after the policy change
 - Vary the control group in robustness checks

Not all bad news for trademark holders

- When resellers could use brand name in their ads
 - Decrease in paid search clicks for trademark holder's ad.
 - Increase in people clicking on the trademark holder's main (non-paid) listing
 - Present some evidence that was because when resellers personalized their ads around the brand name, consumers no longer felt they enjoyed a price advantage.
- This is robust to
 - Using within-Google variation in search behavior
 - Replication in the lab

Implications

Generally, the debate on trademark and copyright online is led by lawyers

- Take a very dim view of any trademark infringement
- Calculate dire losses of \$400 million from Google infringing on trademarks
- Clemens (2010) has argued that such trademark infringement is so bad it is actually an anti-trust concern.
- In marketing, we tell our students to get their brand names out there by whatever means possible.
 - Loosening of corporate trademark grip enables free advertising
 - Marketing perspective appears to be supported.
- Shows the need for careful empirical work into actual harm, rather than automatic presumption of harm.

Outline

- 1 Introduction
- 2 Data and Institutional Background**
- 3 Econometric Analysis
- 4 Mechanism
- 5 Implications
 - Implications

In May 2009, Google announced major change in policy in US

Would start allowing advertisers to use trademarks within the text of their ads without the trademark owners' permission, providing they were re-seller or similar.

boston hyatt Search

About 1,930,000 results (0.42 seconds) Advanced search

Boston Hotels- Downtown Boston Hotel- Hyatt Regency ☆

Hyatt Regency Boston - official site. Discover the perfect Boston hotel for business or leisure. Just one block from the Common, our 500 room downtown ...
www.regencyboston.hyatt.com/ - Cached - Similar

Maps & Directions	Special Offers
Rooms & Rates	Virtual tour
Best Boston Restaurants- Boston MA ...	Meetings & Events
Guest Services	Activities

More results from hyatt.com »

Sponsored links

Hyatt Boston
 Hyatt® Official Site. Get Our Best Rates Guaranteed Only at Hyatt.com.
www.Boston.Hyatt.com

Boston Deals
 Up to 55% off hotel reservations.
 Book online now!
Hotelreservation.com/

Boston
 Save on Hotel Rates
 Call 1-817-333-5399 Or Book Online
www.Hotels-and-Discounts.com

Figure: No Brand Names

boston hyatt Search

About 1,930,000 results (0.42 seconds) Advanced search

Boston Hotels- Downtown Boston Hotel- Hyatt Regency ☆

Hyatt Regency Boston - official site. Discover the perfect Boston hotel for business or leisure. Just one block from the Common, our 500 room downtown ...
www.regencyboston.hyatt.com/ - Cached - Similar

Maps & Directions	Special Offers
Rooms & Rates	Virtual tour
Best Boston Restaurants- Boston MA ...	Meetings & Events
Guest Services	Activities

More results from hyatt.com »

Sponsored links

Hyatt Boston
 Hyatt® Official Site. Get Our Best Rates Guaranteed Only at Hyatt.com.
www.Boston.Hyatt.com

Hyatt Boston Deals
 Up to 55% off hotel reservations.
 Book Hyatt Boston online now!
Hotelreservation.com/Hyatt-Boston

Hyatt Boston
 Save on Hyatt Hotel Rates
 Call 1-817-333-5399 Or Book Online
www.Hotels-and-Discounts.com

Figure: Brand Name

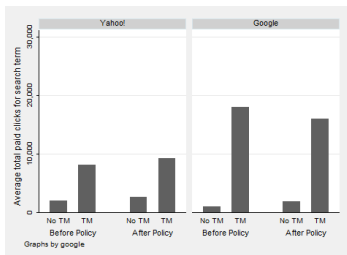
Use data from comScore about hotel room searches

- Study hotel industry
 - Websites visits are meaningful: Hotel brand websites currently account for 69 percent of all online hotel bookings in the US.
 - Sector with the largest claimed losses and much litigation as have to pay 10 percent commission to resellers
- Use top 50 hotel brands in US according to Hotels Magazine ranking.
- Collected data on the different websites that consumers visited after searching a brand name and how many paid and non-paid clicks these websites received.
 - April - August 2009. Exclude June.
 - We also collected data for September and October 2009 which we use in our analysis of long-run effects
 - 714 possible combinations of 51 third-party websites (expedia, travelocity etc) with different trademarked hotel brand searches.
 - Use same searches on Yahoo! as a control.

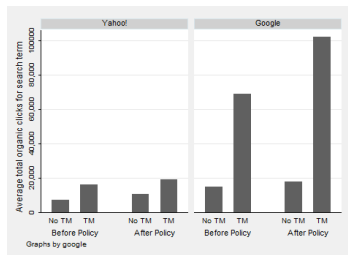
Table: Summary Statistics for Full Sample

	Mean	Std Dev	Min	Max	Observations
Paid Clicks	884.9	5866.9	0	171752	7950
Non-Paid Clicks	3772.1	25102.7	0	914520	7950
Google Search Engine	0.50	0.50	0	1	7950
TMHolder	0.10	0.30	0	1	7950
Number of Paid Ads associated with Search Term	4.20	4.84	0	25	7950
Observations	7950				

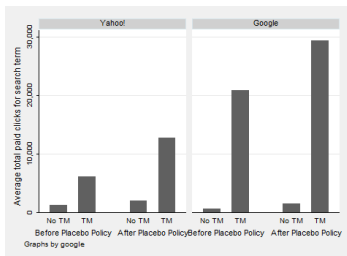
Summary statistics from April 2009-August 2009. Regression analysis uses the 6,360 observations since we exclude June 2009 - the month the policy change occurred.



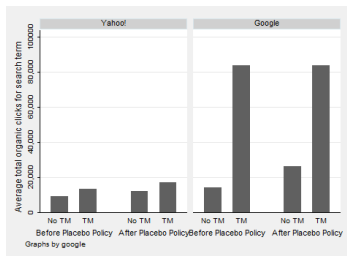
(a) Paid clicks in 2009



(b) Organic clicks in 2009



(c) Paid clicks in 2008



(d) Organic clicks in 2008

Outline

- 1 Introduction
- 2 Data and Institutional Background
- 3 Econometric Analysis**
- 4 Mechanism
- 5 Implications
 - Implications

Move to econometric analysis

- Use simple model to evaluate advertising effectiveness before and after Google policy change

For person i exposed to campaign j in country c at time t

$$\begin{aligned} clicks_{ijkt} = & +\beta_1 TMHolder_{ij} \times PostChange_t \times Google_k + \beta_2 TMHolder_{ij} \times PostChange_t \\ & +\beta_3 PostChange_t \times Google_k + \beta_4 TMHolder_{ij} \times PostChange_t \\ & +\beta_5 PostChange_t + \beta_6 month_t + \gamma_{ijk} + \epsilon_{ijk} \end{aligned}$$

Use OLS and log-linear GLM model.

Table: Trademark-holders lose paid clicks but gain non-paid clicks after the policy change

	Linear Specification			Log Specification	
	(1) Non-Paid Clicks	(2) Paid Clicks	(3) Total Clicks	(4) Non-Paid Clicks	(5) Paid Clicks
PostChange X Google X TMHolder	13431.6*** (3635.5)	-3269.0* (1744.1)	10162.7*** (2997.9)	0.419*** (0.132)	-0.673 (0.493)
PostChange X Google	-3.908 (78.91)	18.56 (44.08)	14.65 (92.36)	-0.112 (0.0897)	0.326 (0.452)
PostChange X TMHolder	-454.4 (893.9)	73.99 (671.5)	-380.4 (1078.8)	-0.269** (0.113)	-0.218 (0.250)
PostChange	148.7 (94.53)	14.48 (46.44)	163.2 (110.7)	0.250*** (0.0757)	0.207 (0.219)
May Indicator	6.184 (159.2)	-34.46 (68.68)	-28.28 (186.8)	0.0229 (0.0563)	-0.0628 (0.0814)
Search Term-Website Controls	Yes	Yes	Yes	Yes	Yes
Observations	6360	6360	6360	6360	6360
R-Squared	0.176	0.154	0.179	0.178	0.173

Hotel brand search term and website visits for 51 top hotel brands. April, May, July, August 2009 data
 Standard errors clustered at search-term level.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Robustness Checks

- Collapse data into two periods
- Restricted data to 'Exact Term' searches
- Checks that no change in composition of Google and Yahoo! users
- Also effect sizes were larger when there was a larger number of competitor's ads

Falsification Checks

No effect for:

- Trademark-holders' sites reached through competitor keywords. Such combinations were not affected by the policy change.
- Generic searches such as 'Atlanta Hotel'.
- Hotels that contractually forbid resellers from using trademarks

Why did this happen?

- One potential reason is simply that users got overwhelmed by the brand name and consequently were drawn to the main listing.
 - Mere Exposure effect
- Other, less behavioral, explanation is that when the other ads emphasized the brand name they actually ended up de-emphasizing other qualities
 - For example, most people visit a website like Hoteldiscounts.com because they hope to get a discount on a Marriott room relative to the Marriott main website.
 - However, emphasizing the Marriott brand name may have interfered with this low price message.

Table: Websites that focused on offering discounted prices seemed to suffer from the policy change

	(1) Non-Paid Clicks	(2) Paid Clicks	(3) Total Clicks	(4) Non-Paid Clicks	(5) Paid Clicks
PostChange X Google X TMHolder	13425.4*** (3636.3)	-3318.3* (1744.5)	10107.2*** (2998.8)	0.414*** (0.132)	-1.030* (0.536)
PostChange X Google X Bargain Site	-43.91 (104.8)	-351.9** (149.0)	-395.8** (183.1)	-0.749 (1.186)	-1.264* (0.751)
PostChange X Google	2.242 (91.30)	67.85 (45.52)	70.09 (104.5)	-0.107 (0.0900)	0.683 (0.498)
PostChange	172.4* (98.92)	-29.21 (44.00)	143.2 (113.6)	0.250*** (0.0758)	-0.136 (0.259)
PostChange X TMHolder	-478.1 (894.5)	117.7 (671.5)	-360.4 (1079.3)	-0.269** (0.113)	0.125 (0.286)
PostChange X Bargain Site	-169.2*** (55.59)	311.9** (143.2)	142.7 (153.2)	-0.228 (0.782)	1.053** (0.496)
May Indicator	6.184 (159.2)	-34.46 (68.69)	-28.28 (186.8)	0.0228 (0.0563)	-0.0628 (0.0814)
Search Term-Website Controls	Yes	Yes	Yes	Yes	Yes
Observations	6360	6360	6360	6360	6360
Log-Likelihood	0.176	0.152	0.179	0.178	0.173

Hotel brand search term and website visits for 51 top hotel brands. April, May, July, August 2009 data
 Standard errors clustered at search-term level.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Actually show this in the lab

- Ran a lab experiment where we randomly showed people one of two panels on Mechanical Turk

boston hyatt

About 1,930,000 results (0.42 seconds) [Advanced search](#)

Boston Hotels- Downtown Boston Hotel- Hyatt Regency ☆

Hyatt Regency Boston - official site. Discover the perfect Boston hotel for business or leisure. Just one block from the Common, our 500 room downtown ...
www.regencyboston.hyatt.com/ - Cached - Similar

Maps & Directions Rooms & Rates Best Boston Restaurants- Boston MA ... Guest Services	Special Offers Virtual tour Meetings & Events Activities
--	---

[More results from hyatt.com »](#)

Sponsored links

Hyatt Boston
 Hyatt® Official Site. Get Our Best Rates Guaranteed Only at **Hyatt.com**.
www.Boston.Hyatt.com

Boston Deals
 Up to 55% off hotel reservations.
 Book online now!
Hotelreservation.com/

Boston
 Save on Hotel Rates
 Call 1-817-333-5399 Or Book Online
www.Hotels-and-Discounts.com

Figure: No Brand Names

boston hyatt

About 1,930,000 results (0.42 seconds) [Advanced search](#)

Boston Hotels- Downtown Boston Hotel- Hyatt Regency ☆

Hyatt Regency Boston - official site. Discover the perfect Boston hotel for business or leisure. Just one block from the Common, our 500 room downtown ...
www.regencyboston.hyatt.com/ - Cached - Similar

Maps & Directions Rooms & Rates Best Boston Restaurants- Boston MA ... Guest Services	Special Offers Virtual tour Meetings & Events Activities
--	---

[More results from hyatt.com »](#)

Sponsored links

Hyatt Boston
 Hyatt® Official Site. Get Our Best Rates Guaranteed Only at **Hyatt.com**.
www.Boston.Hyatt.com

Hyatt Boston Deals
 Up to 55% off hotel reservations.
 Book **Hyatt Boston** online now!
Hotelreservation.com/Hyatt-Boston

Hyatt Boston
 Save on Hyatt Hotel Rates
 Call 1-817-333-5399 Or Book Online
www.Hotels-and-Discounts.com

Figure: Brand Name

Replication in the lab

- Effect size was actually similar, even though we asked about booking rooms.
- Subjects perceived the branded main site as relatively better value in the condition where the resellers emphasized the branded trademark.

Long Run effects

- The remaining question is whether this persisted in the long run?
- It seems that there is little evidence that the reseller ads are actually effective for them.
- Instead, they seem to mainly benefit the trademark holder.
- We show that indeed in the long-run (September and October 2010)
 - Saw relative decrease in these new reseller ads on Google.
 - Effects diminished

First study of trademarks and search on the internet

- We find that when third-parties use trademarks in their search advertising
 - Trademark holders do suffer a drop in paid clicks.
 - Compensated for by more people visiting their main non-paid link
 - Mechanism: third-party sellers ads are no longer effective as communicating a low price competitive message
- More generally, it shows the positive spillovers for firms of not maintaining strict copyright and trademark control on internet