

# Channel Portfolio Management

## Analyzing Channel Portfolios

### Task:

Identify traffic coming from multiple marketing channels

```
SELECT
    utm_content,
    COUNT(DISTINCT ws.website_session_id) AS sessions,
    COUNT(DISTINCT o.order_id) AS orders,
    COUNT(DISTINCT o.order_id)/COUNT(DISTINCT ws.website_session_id) AS conv_rt
FROM website_sessions ws
LEFT JOIN orders o
ON o.website_session_id = ws.website_session_id
WHERE ws.created_at BETWEEN '2014-01-01' AND '2014-02-01'
GROUP BY 1
ORDER BY 2 DESC; # most orders
```

utm_content	sessions	orders	conv_rt
g_ad_1	7500	543	0.0724
NULL	2724	194	0.0712
social_ad_1	1618	17	0.0105
b_ad_1	1614	109	0.0675
g_ad_2	1107	91	0.0822
b_ad_2	262	29	0.1107

### Task:

With gsearch doing well and the site performing better, we launched a second paid search channel, bsearch, around August 22. Can you pull weekly trended session volume since then and compare to gsearch nonbrand so I can get a sense for how important this will be for the business?

```

SELECT
    YEARWEEK(created_at) AS year_week,
    MIN(DATE(created_at)) AS week_start_date,
    COUNT(DISTINCT CASE WHEN utm_source = 'gsearch' THEN website_session_id ELSE NULL END) AS gsearch_session,
    COUNT(DISTINCT CASE WHEN utm_source = 'bsearch' THEN website_session_id ELSE NULL END) AS bsearch_session
FROM website_sessions
WHERE created_at > '2012-08-22'
    AND created_at < '2012-11-29'
    AND utm_campaign = 'nonbrand'
GROUP BY YEARWEEK(created_at);

```

year_week	week_start_date	gsearch_session	bsearch_session
201234	2012-08-22	590	197
201235	2012-08-26	1056	343
201236	2012-09-02	925	290
201237	2012-09-09	951	329
201238	2012-09-16	1151	365
201239	2012-09-23	1050	321
201240	2012-09-30	999	316
201241	2012-10-07	1002	330
201242	2012-10-14	1257	420
201243	2012-10-21	1302	431
201244	2012-10-28	1211	384
201245	2012-11-04	1350	429
201246	2012-11-11	1246	438
201247	2012-11-18	3508	1093
201248	2012-11-25	2286	774

## Comparing Channel Characteristics

### Task:

I'd like to learn more about the bsearch nonbrand campaign. Could you please pull the percentage of traffic coming on Mobile, and compare that to gsearch? Feel free to dig around and share anything else you find interesting. Aggregate data since August 22nd is great, no need to show trending at this point.

```

SELECT
    utm_source,
    COUNT(DISTINCT website_session_id) AS sessions,
    COUNT(DISTINCT CASE WHEN device_type = 'mobile' THEN website_session_id ELSE NULL END) mobile_sessions,
    COUNT(DISTINCT CASE WHEN device_type = 'mobile' THEN website_session_id ELSE NULL END) / COUNT(DISTINCT website_session_id)
    AS pct_mobile
FROM website_sessions
WHERE created_at > '2012-08-22'
    AND created_at < '2012-11-30'
    AND utm_campaign = 'nonbrand'
GROUP BY utm_source;

```

utm_source	sessions	mobile_sessions	pct_mobile
bsearch	6522	562	0.0862
gsearch	20073	4921	0.2452

## Cross-Channel Bid Optimization

### Task:

I'm wondering if bsearch nonbrand should have the same bids as gsearch. Could you pull nonbrand conversion rates from session to order for gsearch and bsearch, and slice the data by device type? Please analyze data from August 22 to September 18; we ran a special pre-holiday campaign for gsearch starting on September 19th, so the data after that isn't fair game.

```

SELECT
    ws.device_type,
    ws.utm_source,
    COUNT(DISTINCT ws.website_session_id) AS sessions,
    COUNT(DISTINCT o.order_id) AS orders,
    COUNT(DISTINCT o.order_id) / COUNT(DISTINCT ws.website_session_id) AS conv_rt
FROM website_sessions ws
LEFT JOIN orders o
ON o.website_session_id = ws.website_session_id
WHERE ws.created_at > '2012-08-22'
    AND ws.created_at < '2012-09-19'
    AND ws.utm_campaign = 'nonbrand'
GROUP BY 1,2

```

device_type	utm_source	sessions	orders	conv_rt
desktop	bsearch	1162	44	0.0379
desktop	gsearch	3011	136	0.0452
mobile	bsearch	130	1	0.0077
mobile	gsearch	1015	13	0.0128

## Analyzing Channel Portfolio Trends

### Task:

Based on your last analysis, we bid down bsearch nonbrand on December 2nd. Can you pull weekly session volume for gsearch and bsearch nonbrand, broken down by device, since November 4th? If you can include a comparison metric to show bsearch as a percent of gsearch for each device, that would be great too.

SELECT

```
YEARWEEK(created_at) AS year_week,
MIN DATE(created_at) AS week_start_date,
COUNT(DISTINCT CASE WHEN utm_source = 'gsearch' AND device_type = 'desktop' THEN website_session_id ELSE NULL END) AS g_dtop_session,
COUNT(DISTINCT CASE WHEN utm_source = 'bsearch' AND device_type = 'desktop' THEN website_session_id ELSE NULL END) AS b_dtop_session,
COUNT(DISTINCT CASE WHEN utm_source = 'bsearch' AND device_type = 'desktop' THEN website_session_id ELSE NULL END) /
COUNT(DISTINCT CASE WHEN utm_source = 'gsearch' AND device_type = 'desktop' THEN website_session_id ELSE NULL END) AS b_pct_of_g_dtop,

COUNT(DISTINCT CASE WHEN utm_source = 'gsearch' AND device_type = 'mobile' THEN website_session_id ELSE NULL END) AS g_mob_session,
COUNT(DISTINCT CASE WHEN utm_source = 'bsearch' AND device_type = 'mobile' THEN website_session_id ELSE NULL END) AS b_mob_session,
COUNT(DISTINCT CASE WHEN utm_source = 'bsearch' AND device_type = 'mobile' THEN website_session_id ELSE NULL END) /
COUNT(DISTINCT CASE WHEN utm_source = 'gsearch' AND device_type = 'mobile' THEN website_session_id ELSE NULL END) AS b_pct_of_g_mob
```

FROM website\_sessions ws

WHERE created\_at > '2012-11-04'

AND created\_at < '2012-12-22'

AND utm\_campaign = 'nonbrand'

GROUP BY 1;

year_week	week_start_date	g_dtop_session	b_dtop_session	b_pct_of_g_dtop	g_mob_session	b_mob_session	b_pct_of_g_mob
201245	2012-11-04	1027	400	0.3895	323	29	0.0898
201246	2012-11-11	956	401	0.4195	290	37	0.1276
201247	2012-11-18	2655	1008	0.3797	853	85	0.0996
201248	2012-11-25	2058	843	0.4096	692	62	0.0896
201249	2012-12-02	1326	517	0.3899	396	31	0.0783
201250	2012-12-09	1277	293	0.2294	424	46	0.1085
201251	2012-12-16	1270	348	0.2740	376	41	0.1090

Conclusion:

Looks like bsearch traffic dropped off a bit after the bid down. Seems like gsearch was down too after Black Friday and Cyber Monday, but bsearch dropped even more.

# Analyzing Direct, Brnad-Driven Traffic

## Task:

To identify traffic coming to your site that you are not paying for with marketing campaigns, we will again turn to our utm params. For non-paid traffic (i.e. organic search, direct type in), we can analyze data where the utm parameters are NULL

```
SELECT
  CASE
    WHEN http_referer IS NULL AND is_repeat_session = 0 THEN 'new_direct_type_in'
    WHEN http_referer IS NULL AND is_repeat_session = 1 THEN 'repeat_direct_type_in'
    WHEN http_referer IN('https://www.gsearch.com','https://www.bsearch.com') AND is_repeat_session = 0 THEN 'new_organic'
    WHEN http_referer IN('https://www.gsearch.com','https://www.bsearch.com') AND is_repeat_session = 1 THEN 'repeat_organic'
  ELSE NULL END AS segment,
  COUNT(DISTINCT website_session_id) AS sessions
FROM website_sessions
WHERE website_session_id BETWEEN 100000 AND 115000
  AND utm_source IS NULL
GROUP BY 1
```

segment	sessions
new_direct_type_in	367
new_organic	414
repeat_direct_type_in	688
repeat_organic	772