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Air France Internet Marketing:
Optimizing Google, Yahoo!, MSN, and Kayak Sponsored Search

Rob Griffin, senior vice president and U.S. director of search for Media Contacts, a media solutions provider, examined a report containing this month's numbers for the profitable paid-search campaign his agency had managed for one of its top clients, Air France. Executives at the French company were pursuing an international growth strategy and were looking to increase their share in the hyper-competitive U.S. air travel market. Although they were pleased thus far with the results that Griffin and his team had delivered during the engagement, the pressure was on Media Contacts to continuously optimize performance and return on advertising (ROA) dollars spent for search engine marketing (SEM) campaigns.

Sharon Bernstein, director of insights for Media Contacts, had recently briefed Griffin on the situation:

> *Air France's revenue from online ticket sales continues to grow. Our reports demonstrate Media Contacts' success at driving a growing volume of visitors to Air France–affiliated Web sites. As we continue to make decisions regarding allocation of funds toward search marketing, my team is eager to focus our analytic marketing expertise on increasing Air France's net revenue gained through online advertising as well as ROA. As you know, the cost-per-click of search engine keywords is continuing to increase and there are more new players entering the market. I would like to see our campaigns be even more efficient at driving visitors to Web sites and converting them to customers while keeping click costs minimized.*

As Griffin digested Bernstein's comments, he thought about how SEM had become an advertising phenomenon, with North American advertisers spending $9.4 billion in the SEM channel in 2006—62 percent more than they had spent in 2005.[1] But Griffin did not take this bullish growth for granted; although he was pleased with his company's performance to date, Griffin wanted to make sure that the team kept its edge and could deliver the results Air France expected. Griffin agreed with Bernstein that a more effective mix of tactics could improve the efficiency of Media Contacts' campaigns and continue to deliver positive net revenue and ROA for Air France. Griffin knew the data Media Contacts had been collecting on its search campaigns

[1] Search Engine Marketing Professional Organization, "Search Engine Marketing Is a Rocket," February 8, 2007, http://www.sempo.org/news/releases/02-08-07.

for Air France could be analyzed to optimize future campaign performance; now he had to decide how to move forward.

Air France

In 1933 five French airlines merged to form Air France, and the new company set up its hub at the main airport of the Ile de France Region in Paris. Seventy-five years later, that hub, Paris–Charles de Gaulle, had grown to be one of the most efficient in Europe, providing the largest number of connections within the shortest time span.

After the end of World War II, Air France launched its first successful flight to the United States; this inaugural flight between Paris and New York City was held on July 1, 1946, with a flight time of 19 hours and 50 minutes. By 2007 Air France had expanded its U.S. cities served to thirteen. In total that year, Air France served 185 destinations in 83 countries and its total fleet size stood at 383 aircraft.

On May 5, 2004, Air France and Netherlands-based KLM, two of Europe's oldest airlines, joined forces and created the SkyTeam global alliance. This alliance was in response to the need for a global travel offering (**Exhibit 1**). In 2007 SkyTeam employed a work force of 150,000. Combined, the two airlines carried the most scheduled international passengers, flying to 225 destinations in 109 countries (**Exhibit 2**). The new Air France-KLM group developed its strategy based on a concept of "one group, two airlines."

As Air France grew, it developed an approach to aircraft fleet management that was based on a two-prong strategy: *rationalization*, through acquisition of modern aircraft with similar technical characteristics (i.e., "family effects"), and *flexibility*, to adjust aircraft delivery dates or change models within a given aircraft family. Air France needed to be able to adapt quickly to the changing demands of its environment. If demand was low, the company had to reduce capacity by eliminating unnecessary aircraft. For this reason, a substantial part of Air France's fleet was on short- or medium-term lease, a practice known as a "progressive operating lease." Thanks to this strategy, Air France registered positive results from 1999 through 2007, despite years of crisis in the airline industry.

By the end of the 2006–2007 fiscal year, Air France-KLM continued to see growth. During this time, the global economy grew by 4.9 percent, while airline traffic increased 6.6 percent, according to the Association of European Airlines. At Air France specifically, passenger activity increased 5 percent, with 73.5 million passengers carried, resulting in Air France posting a 5.1 percent rise in unit revenue per available seat kilometer.

The Airline Industry and Its Competitive Landscape

> *Profitability is finally on the horizon. Airlines can be proud of impressive results in safety, efficiency, and the environment. But profits still don't cover the cost of capital. Air transport must continue its agenda for change.*
>
> —Giovanni Bisignani, director and CEO of the International Air Transport Association (IATA)

The airline industry had historically been plagued with low returns, bankruptcies, and ever-fluctuating demand. But in 2006 airline profitability finally improved. After six challenging years and $42 billion in losses, airlines came within $500 million—0.1 percent of revenue—of what industry analysts considered breaking even. Furthermore, operating profit for the industry reached $13 billion in 2006, more than double the amount generated the previous year. At just over 3 percent of revenues, however, this was still far from ideal industry profit levels (**Exhibit 3**).

Nearly all of the $42 billion in losses accumulated in the six years prior to 2006 had been generated in the U.S. market. In 2006 the U.S. airline industry returned to profitability, excluding the $10 billion cost of bankruptcy restructuring. Outside the United States, airlines had suffered net losses in 2001 following the events of September 11, but in subsequent years, most airlines had seen the return of modest profits.

International travel had begun to emerge as the fastest growing market; in 2006 the number of international passenger kilometers grew by 6 percent, while growth in domestic passenger kilometers was less then 4 percent. Although two-thirds of air passenger journeys were domestic, when measured in revenue passenger kilometers (RPK), international travel accounted for 60 percent of airline revenues.

In addition to the general increase in demand for air travel, from 2000 to 2006 the industry saw a 50 percent rise in the number of passengers traveling on economy tickets while travel on premium tickets remained stable. In 2006 international premium traffic grew 4.3 percent, much less than the 7.4 percent growth in economy traffic.

Taking advantage of this growing demand for economy air travel was Ryanair, Europe's original low-fare airline. In 2007 the company led the market for international air travel. The airline offered services across twenty-six European countries but had not expanded its offerings to the United States. French-operated L'Avion, on the other hand, catered to the traditionally less price-sensitive business traveler. Indeed, in 2006 L'Avion emerged onto the international airline scene as a provider of business-class-only service between Paris and Newark. This route was the airline's sole offering that year.

Other airlines operating in the Air France market space included U.S. carriers American Airlines and United, as well as European carriers Lufthansa and British Airways. At the time, American Airlines carried more passengers than any other airline.

Transformation of Travel Industry by the Internet

World Wide Web and the Emergence of E-Commerce

The travel industry was one of the earliest to adopt e-commerce into their sales strategies. Driven primarily by the development of the World Wide Web, the Internet had evolved from its origins as an institutional and educational network into a consumer-driven network. The user-friendly interface of Web-browsing software quickly led to development of consumer-geared Web sites. Consumers could access information more readily and at their own convenience. This newly found accessibility held huge potential for increasing businesses' sales by vastly increasing their reach. As consumers grew more Web-savvy and became more trusting in the security of online services, e-commerce emerged as a very fast growing sales medium.

Having already built systems for external use by travel agents to search and book flights for customers, airlines were uniquely well suited to establish direct-to-consumer sales portals via the Internet. Further, with the adoption of e-tickets, airlines were better protected from many of the logistical problems faced by other industries as they evolved toward online sales.

The Landscape of the Travel Industry on the Internet

The travel industry comprised several different types of online service providers. Direct Web sites were owned and hosted by the individual airlines, and as popularity of the Web and e-commerce grew, travel providers responded quickly by establishing their own Web sites. Airlines' direct Web sites provided a number of services beyond the ability to purchase flights, which made them attractive destinations for travelers performing their own Web searches. These Web sites housed full flight schedules for the airline, real-time information on flight arrival/departure times, fleet information, and customer loyalty programs. As a result, the number of user-oriented travel tools on airlines' direct Web sites increased dramatically in just a few short years (**Exhibit 4**).

Consumers could also choose to purchase air tickets from aggregator Web sites such as Expedia.com, Orbitz.com, and Priceline.com. The aggregators existed in a pseudo-competitive position relative to the airlines' own direct Web sites but also offered services beyond flight purchase, including hotel and vacation packages. When consumers would book via the aggregators, the airlines still earned revenue, but they paid a fee to the aggregator for facilitating the purchase. The airlines' direct Web sites had difficulty competing with the convenience of the aggregators, which could perform lowest-price searches and allowed the consumer to build full travel packages with the convenience of one purchase from one Web site.

Further increasing the number of travel-booking alternatives online was a third type of service provider, metasearchers. The metasearch sites (e.g., Kayak.com, Sidestep.com) were also aggregators of information but did not offer transaction services. Instead, consumers could use these sites to search for their travel services, view consolidated results from multiple direct service providers, make their choice, and then be linked through to the airline's direct Web site to complete their purchase. Travel providers paid these sites for advertising (in a similar fashion to the major search engines) in order to be included in the search results.

Consumer Adoption of E-Commerce for Travel

According to the Travel Industry Association (TIA), the number of consumers going online to research and book travel increased 263 percent between 1996 and 2005.[2] All estimations of the online travel market predicted substantial growth rates. PhoCusWright, a travel industry marketing research authority, estimated that more than one half of all U.S. travel would be booked online by consumers in 2006, compared to 30 percent in 2005, 20 percent in 2003, and 15 percent in 2002.[3]

[2] Mintel International Group Ltd., "Internet Travel Booking—U.S.—September 2005."

[3] Ibid.

The intangibility of travel as a consumer product made it uniquely well suited to online purchasing when compared to other segments of the retail industry. With other products, consumer decision making could be difficult without handling the product prior to purchase. This was not the case with travel purchases. Additionally, increased access to the Internet by consumers, brought on by greater availability of high-speed connections, helped bolster this trend considerably, along with increased price competition among suppliers.[4] While overall Internet penetration approached saturation, the volume of high-speed connections was continuing to rise (**Exhibit 5**). In 2005 an estimated 32.2 million households in the United States had high-speed Internet connections.[5]

Search Engine Marketing

With billions of Web pages to sort through, search engines provided the primary means for navigating and organizing the Internet. SEM became a well-known method of marketing in which businesses promoted their products and services through targeted placements on Internet search engine results pages (SERPs). Search engines constructed SERPs using proprietary algorithms, which determined the most relevant sites for a given search. This provided a highly targeted space to connect consumers to exactly what they were looking for when they were looking for it. In 2006 SEM had become the most successful form of online advertising because of this targeted relevancy. SEM involved both Web site search engine optimization and pay-per-click sponsored search campaigns.

Search Engine Optimization (SEO)

SEO analyzed the structure and content of a business's Web site to maximize its readability and relevance to search engine "robots" indexing the content of the Internet. SEO strategies looked at technical aspects of sites such as URL address structure, Web server settings, information architecture, site usability, and text content. Image- and multimedia-heavy sites required adding alternate text tagging to be readable by search engines. The goal of SEO was to organically improve a site's relevancy ranking, which meant it would naturally appear higher on a SERP.

Pay-Per-Click, or Sponsored Search

In pay-per-click, or sponsored search, advertising campaigns, businesses bid on keywords for sponsored link listings consisting of a title, a short description and a display URL. Sponsored links usually appeared at the top of a SERP for a relevant search. Relevancy was determined by the match of keywords bid on by the advertiser, the amount bid for those keywords in comparison with competitor bids, the number of times an ad had been clicked on for a keyword, and proprietary "black box" algorithmic criteria from the search engine provider. Generally, an advertiser paid for an ad only when it was clicked. This cost-per-click could reduce with volume as the search engine provider determined the ad was more relevant to those keywords.

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[4] Ibid.

[5] Ibid.

Sponsored search could be managed in terms of campaigns, keywords, and groups of keywords. Although each search engine had unique terms for its programs, most had become similar, likely due to the success of Google's program. Advertisers placed maximum bids on keywords and laid out daily budgets for campaigns. These budgets, along with relevancy, determined how much share-of-voice (SOV) the advertiser achieved. The larger search engines allowed for broad, exact, and phrase keyword campaigns to allow advertisers to cast either wide or narrow nets of impressions. Choice of keyword type depended on the uniqueness of a keyword to describe the underlying product or service. Geotargeting, a relatively new search engine feature, allowed a campaign to target a specific geographic region and language.

Emerging trends in sponsored search tended to revolve around more finely targeted relevancy. Search engine verticals had appeared in several industries, such as Kayak for travel services, to allow for more specific searches within the given industry. Local search had also achieved buzz as a means to target consumers with locally relevant search results; geotargeting was a form of local search.

Pay-per-click campaigns were considered easily measurable, due to the ability to track precise actions on the Internet. Using analytic software, an advertiser knew the number of times an ad was seen (known as impressions), which keywords were used, the number of clicks per impression or click-through rate on the ad, how many clicks were converted into transactions (known as transaction conversion percentage), and how much revenue those resulting transactions were worth.

To optimize a sponsored campaign, the campaign had to improve on one or more of the following: cost-per-click reduction, increase in bookings, net revenue, revenue per transaction, return per transaction, overall performance by engine, or other performance metrics that could improve the net revenue of a particular campaign.

Sponsored search provided more immediate traceable results than SEO and generally was more campaign driven. The instant tracking of results and on-the-fly adjustments allowed pay-per-click campaigns to be highly responsive.

SEO and pay-per-click worked together in a SEM strategy: performance of pay-per-click keyword campaigns could be used to tweak content on the home Web site, and the relevant portfolio of pay-per-click keywords could be inferred by analyzing which keyword referrals were most effective at leading a consumer to the Web site through a natural listing.

Media Contacts and Its Partners

In 2007 Air France operated in the fiercely competitive business of international and domestic airline travel services. Catering to both business and leisure travelers, Air France turned to Internet marketing campaigns and search engine optimization to reach large customer segments in multiple countries including the United States. To be successful, Air France had to understand how to maximize the net revenue and the ROA of its Internet marketing campaigns by evaluating alternative strategies. The airlines hired Media Contacts to help it achieve this goal.

Media Contacts

Media Contacts was the global interactive media network of Havas Media, a group ranked sixth among communications consulting companies throughout the world. Beginning in 1997, Media Contacts had grown to operate twenty-seven offices in twenty-three countries in Europe, North America, South America, Asia, and Oceania. The company provided data-driven media solutions across all interactive channels, from direct response to relationship-based media. In addition to Air France, Media Contacts' extensive list of customers included Royal Caribbean, Fidelity, and Goodyear. John Arnott, Web and communications manager of ING Direct (UK), commented on Media Contacts' service:[6]

> *One of the most refreshing aspects of working with Media Contacts is that they are genuinely passionate about our brand and delivering results for us. They constantly look to improve our online performance through innovative thinking and testing new approaches. The level of analysis and reporting we receive from them is crucial to the continuing success of our business.*

Media Contacts worked to form strategic partnerships with a number of research and technology providers in order to gain access to granular data sets, which could be integrated with the company's campaign data. One of the partnerships Media Contacts established was with DoubleClick, a company that developed and provided Internet ad services. In 2007 Media Contacts was one of three agencies in the world that transferred all impressions, clicks, and activity data from DoubleClick services to its data warehouse on a nightly basis.

DoubleClick

As an Internet ad services company, DoubleClick offered technology products and services marketed primarily to advertising agencies and media companies in an effort to allow clients to traffic, target, deliver, and report on their interactive advertising campaigns. The company's main product line, known as DART enterprise, was intended to increase the purchasing efficiency of advertisers and to minimize unsold inventory for publishers.

Included in the DART enterprise system was a Web-based search system, which was integrated with leading engines such as Google, Yahoo, and MSN. With the increased Internet use for client purchases, buyers of online advertising struggled to find the best allocation of ad dollars. DoubleClick's Advertising Exchange service was designed to help customers maximize ROA through dynamic pricing and intelligent bidding. The tool allowed search specialists to set maximum bids based on past performance with specially designed bid rules. In addition, specialists were able to define budgets and time frames, as well as select cost-per-thousand, cost-per-click, and cost-per-action pricing models. Customers using the DART enterprise system spoke highly of its benefits:

> *DART Enterprise has helped us to understand where users are going on our site and their buying behavior patterns so we can continually adjust offers, placements, and creatives to improve buy-through and maximize sales.*
>
> —Otto Linton, ad trafficking manager, VEGAS.com

[6] Interview with the authors.

In 1999, at a cost of $1.7 billion, DoubleClick merged with data-collection agency Abacus Direct, which worked with offline catalog companies. Roles changed for DoubleClick in 2007, however, when Google announced it had reached an agreement to acquire DoubleClick for $3.1 billion in cash, a decision that quickly stirred anti-competitive concerns regarding Google's power and influence in the growing SEM industry.

Google

Google began in January 1996 as a research project by two PhD students at Stanford University. Based in Mountain View, California, the company was incorporated in 1998 and received its first round of venture capital funding in June 1999. Google's advanced Internet search engine technology positioned the company for rapid growth, and following an initial public offering in August 2004 that raised $1.67 billion, the company pursued an aggressive growth strategy through new product developments, acquisitions, and partnerships. By June 2006 Google employed 7,942 full-time workers and was one of the top five most popular sites on the Internet.

Google generated revenue primarily through two programs: highly targeted advertising and online search services. Google's advertising program used auction pricing based on the value (cost-per-click) an advertiser assigned to particular keywords. The position of a particular advertisement on Google's search results page was determined by a combination of the cost-per-click and the click-through rate so that the most relevant ads were displayed more prominently. While these tactics allowed Google to display the more relevant ad copies higher on a given page, Google's page-ranking technology also utilized certain "black box" algorithms and calculations to which search engine marketers did not have access.

Powering Google's search engine technology and advertising services was an advanced technology architecture that linked large numbers of inexpensive PCs together in a highly efficient grid network. Employing highly complex mathematical algorithms, Google software conducted a series of simultaneous calculations requiring only a fraction of a second. Unlike its early competitors who relied heavily on how often a word appeared on a Web page when displaying search results, Google used its patented PageRank algorithm to determine which Web pages were most important. According to Google's Web site, "PageRank reflects Google's view of the importance of Web pages by considering more than 500 million variables and 2 billion terms. Pages that Google believes are important pages receive a higher PageRank and are more likely to appear at the top of the search results."[7]

Not surprisingly, Google's growth did not go unnoticed by competitors such as Yahoo and Microsoft. As consumers and businesses increasingly shifted a larger percentage of purchases to Internet channels, SEM and digital advertising campaigns represented a significant growth industry. Google launched the opening volley in this race for market share by announcing in 2007 that it was acquiring DoubleClick. Tim Armstrong, Google's president of advertising and commerce for North America, explained the rationale for the acquisition:

> *This transaction will strengthen our advertising network by expanding our access to publisher inventory and enabling us to serve the needs of a broader set of advertisers and ad agencies.*

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[7] Braintique.com, "How Google Works," http://www.braintique.com/research/topic/how.shtml.

Microsoft MSN

The Microsoft Network (MSN) was released in August 1995 and established Microsoft as a major player in the online world. Originally focused on Web e-mail and positioning itself as an Internet service provider, Microsoft realized by 1999 that the largely underused MSN.com domain name would require a certain level of rebranding to better challenge Yahoo for online advertising dollars. As a result, that same year MSN.com was relaunched as a Web portal and a branded family of sites produced by Microsoft's Interactive Media Group (IMG). Perhaps the most significant aspect of the relaunch was Microsoft's decision to offer the majority of content for free, compared with its previous policy of paid subscription services.

Early in its inception, MSN realized an opportunity to partner with other service and content providers in order to drive traffic to the MSN.com home page. MSN received revenue from three key sources: Microsoft adCenter, MSN Shopping, and the subscription-based Internet service to Web users. Microsoft adCenter (formerly MSN adCenter) was developed internally by Microsoft to deliver ads and to end Microsoft's historical reliance on third-party providers. As late as 2006 Microsoft had relied heavily on Yahoo for search-related advertising; now it began creating its own search product within adCenter.

Despite a comparatively late entry into the SEM world, MSN.com enjoyed at least one advantage over pure-play search engines: rich customer data gathered through its Internet hosting service. At one point, MSN.com claimed approximately nine million subscribers, second only to AOL.com in terms of registered users. By combining the technology capabilities of Microsoft adCenter with customer transaction information, Microsoft moved to differentiate itself from its competitors.

Like Google adWords, Microsoft adCenter used pay-per-click technology when serving advertisements as well as advertisement click-through rate in determining the frequency at which an ad would be displayed. Microsoft differed from Google, however, by allowing its advertisers to target ads to a particular customer demographic. In other words, by restricting ads to a given set of demographics, Microsoft could increase the bid price whenever users of a particular demographic would see an ad.

Despite adCenter's promising potential, Microsoft was keenly aware of the threat posed by Google. When Google announced its intention to acquire DoubleClick, Microsoft responded with a $6 billion tender offer for digital marketing firm aQuantive—an offer that represented an 85 percent premium over aQuantive's stock price in the days preceding the announcement. When Kevin Johnson, president of the platforms and services division at Microsoft, announced the acquisition, he erased any doubt of Microsoft's perspective of Google:

> *The Microsoft aQuantive transaction will promote competition, and the Google DoubleClick transaction will reduce competition . . . Consider on the one hand that aQuantive today is in three lines of business . . . Microsoft today is in none of those businesses. That's why this acquisition will increase competition.*[8]

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[8] Enid Burns, "Microsoft Will Acquire Ad Company aQuantive," ClickZ.com, May 18, 2007, http://www.clickz.com/showPage.html?page=3625912.

Yahoo

In early 1994, Stanford graduate students Jerry Yang and David Filo created a Web site that would later become known as Yahoo. Originally designed as a directory of other Web sites, Yahoo in time shifted course, evolving into a searchable index of Web pages. As it grew organically in size and breadth of the products it offered, Yahoo expanded into new markets by acquiring a broad mix of companies. With each acquisition, Yahoo modified the terms of service for customers of the acquired company, claiming intellectual property rights for the digital content residing on Yahoo's computer servers. By leveraging this content, Yahoo pursued a strategy of expanding beyond pure-play search and becoming a content-driven Web portal for the global Internet user community.

As the predecessor of Yahoo Search Marketing, commercial Web search services company Overture was one of the early pioneers in monetizing Internet search traffic. Its May 1999 patent application, entitled "System and method for influencing a position on a search result list generated by a computer network search engine," was used in litigations against several companies, including Google. Interestingly, it was precisely during this litigation, in 2003, that Yahoo acquired Overture. Perhaps to hasten the buyout of Overture, the Google vs. Overture lawsuit was settled the next year, with Google agreeing to issue 2.7 million shares of common stock to Yahoo in exchange for a perpetual license of the underlying patent's technology.

Yahoo pursued competitive differentiation in SEM by combining ads with "content matching." Content matching represented Yahoo's ability to marry search and non-search content into a single unified user experience. Yahoo's extensive Web portal network and digital content repositories provided the company with a unique ability to display more than just search results; context-specific content could be linked to search keywords, a function Yahoo hoped would present a greater value proposition than pure-play Internet search providers. It should be noted, however, that Yahoo received 46 percent less revenue per SERP than Google.

While Google and Microsoft had enjoyed measurable success in their respective search marketing businesses, Yahoo's performance had been comparably less positive. Yahoo responded to lackluster results in 2006 by replacing its CEO of six years, Terry Semel, with company co-founder Jerry Yang. As a first-time CEO, Yang acknowledged the challenges ahead during his first earnings conference call:

> *I intend to spend the next 100 days or so focused on mapping out a strategic plan for long-term success, working with our teams to put the right organization and the right people in place, and making any necessary changes.*[9]

Kayak

Founded in 2004 by Steve Hafner and Paul English, Kayak.com was a relative newcomer to the SEM industry. The company was considered a travel aggregator of sorts, meaning it scoured the Internet for the best possible business and leisure travel services. Kayak's founders were experienced entrepreneurs with a history of successful startup businesses under their belts.

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[9] Larry Dignan, "Yahoo To Lay Out Strategic Plan in Next 100 Days," ZDNet.com, July 17, 2007, http://blogs.zdnet.com/BTL/?p=5684.

Focusing on a specific niche in the SEM industry, Kayak aimed to differentiate itself in two ways: as an alternative business model from those of established travel service aggregators such as Orbitz, Expedia, and Travelocity; and as a unique technology architecture. Long-time industry players such as Orbitz and Expedia purchased and resold airline seats and hotel rooms, in effect committing to expensive inventory holding costs in a notoriously volatile and price-sensitive market. Kayak, however, was exclusively a travel search service; rather than sell anything, it merely connected consumers with the airlines and hoteliers.

The company also intended to leverage highly advanced software application architecture that was distinct from existing competitor offerings. Instead of passing Web site data through expensive central servers, Kayak's rich Internet application (RIA) architecture transferred some of the processing load to the consumer's computer, ultimately allowing much greater (and cheaper) processing capacity. As a result, Kayak said it "provided a more exhaustive search than any other travel site, including the inventory of 551 airlines and 91,500 hotels. Its goal is to find and search every hotel on earth, which it estimates at 300,000 properties."

In addition to the company's service operations and technology architecture, Kayak.com enjoyed another distinction relative to the larger search engine providers such as Microsoft, Yahoo, and Google: Kayak's Web site search and clickstream data were not integrated with DoubleClick. As a result, advertising agencies and media companies interested in analyzing Kayak.com site activity had to rely on alternative data sources and data integration techniques for an effective comparison. Because of Kayak's comparably smaller market share position in the industry, extensive analysis of Kayak data was rare.

Kayak's historical business results were less than impressive, but the forecast was beginning to look more positive. Although monthly losses were running at $500,000, sales volume was increasing at 15 percent per month, reaching $388,000 in September 2005. In addition, the company boasted a click-through rate of 8 percent for Kayak.com, significantly higher than the 0.8 percent industry average for online travel sites.

Details of the Challenge

The Media Contacts team had only a short time to make sense of all of its research and determine a way to optimize future campaigns. Although it appeared that using branded keywords might bring in more revenue, it was also apparent that unbranded keywords produced a larger percentage of single-click conversions. Which approach would have a higher propensity to increase ticket sales and to improve ROA? Furthermore, Media Contacts had to determine whether broad or focused keywords were more profitable for Air France. Although broad keywords occupied the majority of searches, were they as profitable as focused keywords? How could Media Contacts use assist keywords to lead consumers to a desired behavior? Note that typical Internet tracking worked by measuring the last keyword clicked, and this keyword was credited for the sale/conversion. The team's research therefore extended well beyond the examination of numerical data; it had to think about consumer behavior, considering how many searches it might take for someone to convert.

Each search engine that Air France was working with in July 2007—Google, Yahoo, MSN, and Kayak—appeared to specialize in different services and consequently might appeal to different audiences. Media Contacts needed to decide which search engine(s) delivered the most value to Air France per dollar spent. They also needed to be mindful of whether any search engines were partnered with travel aggregators, as this could create a potential conflict of interest for Air France.

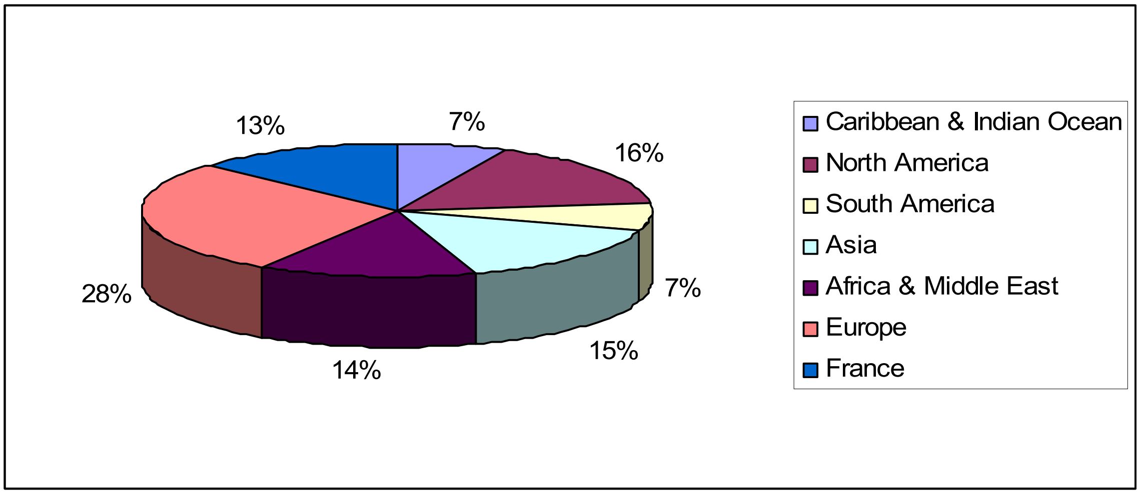
Media Contacts could use DoubleClick data to analyze past performance and make recommendations for strategy optimization. The data included line item information for keywords and keyword groups for each campaign and search engine (**Exhibit 6**). To make sense of this information, it would need to be grouped and analyzed using Microsoft Excel's pivot table feature (**Exhibit 7**). Using pivot tables to show different summaries of data, the Media Contacts team could analyze campaign key performance indicators (KPI) by search engine, bid strategy, keyword group, keywords, and so on.

Next Steps

As Griffin and his team reviewed the latest marketing campaign figures for Air France, he paused to reflect on potential future strategies Media Contacts should consider for increasing Air France's market share and profitability in the United States. While a quick review of the data indicated that SEM was a profitable venture for Air France, Griffin was eager to understand what a more thorough data analysis would uncover. For example, he was curious whether different search engines were attracting different consumer segments and yielding unique purchase patterns and consumer behavior from SEM campaigns. Glancing at his calendar, Griffin noticed the upcoming biannual financial planning session with the Air France marketing team to review campaign funding proposals.

- Should Media Contacts recommend a uniform strategy for Air France across search engine publishers? Or would it be more effective to tailor each publisher strategy to maximize return on investment?
- How can campaigns be improved to increase overall value gained from investment with a search engine publisher? Should keywords be added or dropped from the campaign? Should campaign tactics or copy be adjusted to improve campaign performance?
- What are the most important KPIs, and what impact will campaign changes have on these KPIs?
- How should future SEM campaigns be structured? In the past, Media Contacts had concentrated on Google, Microsoft, and Yahoo; was there now an opportunity to optimize search advertising with metasearch companies such as Kayak?

Exhibit 1: Scheduled Passenger Revenue by Destination



Source: World Air Transport Statistics (WATS). WATS provides statistics from more than 350 airlines, including low-cost carriers. This represents a complete statistical picture of the airline industry in 2006.

Exhibit 2

Scheduled International Passengers Carried in 2006 (World)

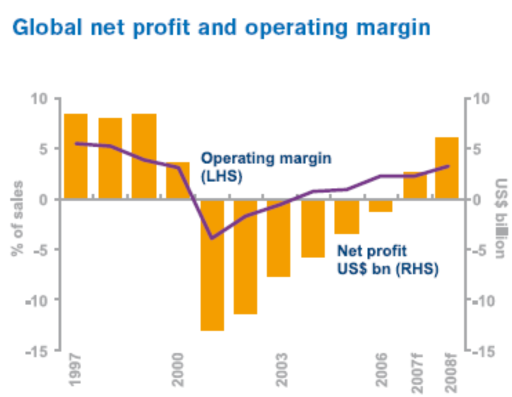
Rank	Airline	No. of Passengers
1	Ryanair	40,532,000
2	Lufthansa	38,236,000
3	Air France	30,417,000
4	British Airways	29,498,000
5	KLM	22,322,000
6	Easyjet	21,917,000
7	American Airlines	21,228,000
8	Singapore Airlines	18,022,000
9	Emirates	16,748,000
10	Cathay Pacific Airways	16,667,000

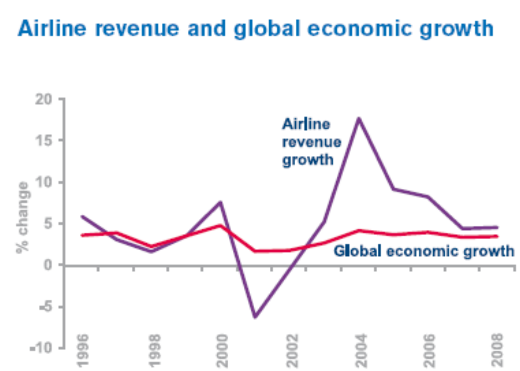
Scheduled Passengers Carried in 2006 (World)

Rank	Airline	No. of Passengers
1	American Airlines	99,835,000
2	Southwest Airlines	96,277,000
3	Delta Airlines	73,584,000
4	United Airlines	69,265,000
5	Northwest Airlines	55,925,000
6	Lufthansa	51,213,000
7	Air France	49,411,000
8	All Nippon Airways	49,266,000
9	Japan Airlines	48,911,000
10	China Southern Airlines	48,512,000

Source: World Air Transport Statistics (WATS). WATS provides statistics from more than 350 airlines, including low-cost carriers. This represents a complete statistical picture of the airline industry in 2006.

Exhibit 3





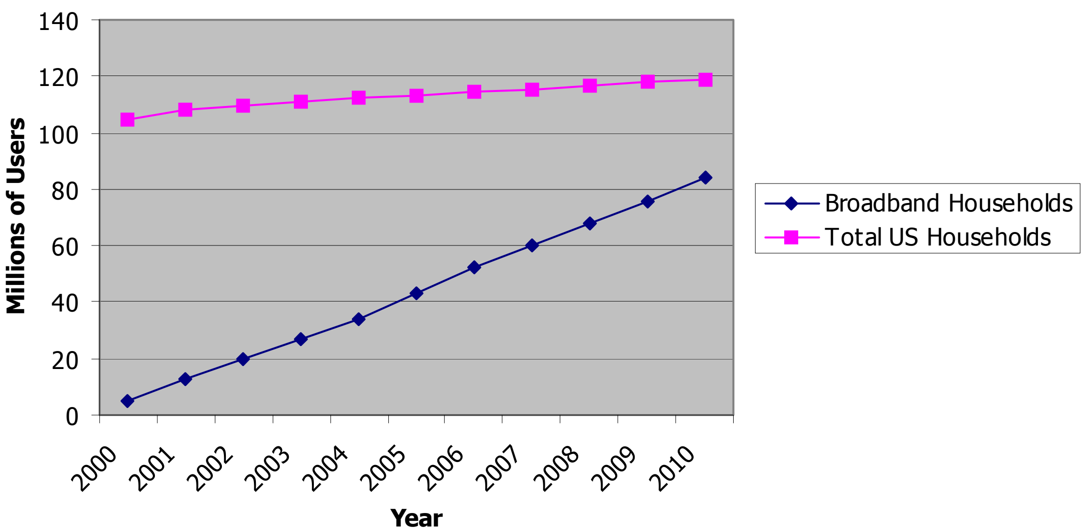
Source: International Air Transport Association (IATA). IATA, an international trade body created more than sixty years ago by a group of airlines, represented some 250 airlines comprising 94 percent of the international scheduled air traffic.

Exhibit 4: Frequent Business Travelers' Use of Online Tools, 2002 and 2004[10]

	2002	2004
Total sample of frequent business travelers:	312	304
Number of respondents that:		
Print boarding pass before airport arrival	30	77
Check in online	22	76
Receive mobile or PDA alerts	30	44
Use in-flight Internet access	7	7

Source: JupiterResearch

Exhibit 5: U.S. Broadband Household Projections, 2000–2010[11]



Note: Mintel estimates are based on deployment data of all high-speed Internet access technologies, including cable service, DSL, and both fixed and mobile wireless connections.

[10] Mintel International Group Ltd., "Internet Travel Booking—U.S.—September 2005."

[11] Ibid.

Exhibit 6: DoubleClick Data on Campaign and Publisher Performance[12]

Publisher Name	Keyword ID	Keyword	Match Type	Campaign	Keyword Group	Category	Bid Strategy	Keyword Type	Status	Search Engine Bid	Clicks	Click Charges	Avg. Cost per Click	Impressions	Engine Click Thru %	Avg. Pos.	Trans. Conv. %	Total Cost/ Trans.	Amount	Total Cost	Volume of Bookings
Yahoo - US	43000000039657988	fly to florence	Advanced	Western Europe Destinations	Florence	uncategorized		Unassigned	Live	$6.25	1	$2.31	$2.31	11	9.09%	1.27	900.00%	$0.26	$8,777.95	$2.31	9
Yahoo - US	43000000039651113	low international airfare	Advanced	Geo Targeted DC	Low International DC	uncategorized		Unassigned	Paused	$6.25	1	$0.63	$0.63	6	16.67%	1.00	100.00%	$0.63	$1,574.20	$0.63	1
MSN - Global	43000000019452431	air discount france ticket	Broad	Air France Brand & French Destinat	France	uncategorized	Position 2-5 Bid Strategy	Unassigned	Deactivated	$0.00	1	$0.39	$0.39	9	11.11%	1.11	100.00%	$0.39	$390.15	$0.39	1
Google - Global	43000000005663331	[airfrance]	Exact	Air France Global Campaign	Air France	airfrance	Position 1- 3	Unassigned	Unavailable	$7.50	59	$2.31	$0.04	401	14.71%	2.00	3.39%	$1.16	$1,665.15	$2.31	2
Overture - Global	43000000005421354	air france online booking	Standard	Unassigned	Unassigned	airfrance	Position 1-2 Target	Unassigned	Paused	$0.25	8	$2.20	$0.28	318	2.52%	2.98	12.50%	$2.20	$935.00	$2.20	1
Overture - Global	43000000005421146	airfrance,com	Standard	Unassigned	Unassigned	airfrancewebsite	Position 1-2 Target	Unassigned	Paused	$0.13	42	$5.25	$0.13	722	5.82%	1.13	4.76%	$2.63	$1,817.30	$5.25	2
Google - US	43000000014110441	paris cheap airline	Broad	Geo Targeted San Francisco	San Francisco to Paris Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Paused	$6.25	3	$5.21	$1.74	13	23.08%	1.00	33.33%	$5.21	$1,685.55	$5.21	1
Overture - US	43000000014278681	airfrance.us	Standard	Unassigned	Unassigned	airfrance	Position 1-4 Bid Strategy	Unassigned	Paused	$0.33	47	$11.80	$0.25	547	8.59%	1.18	4.26%	$5.90	$3,796.10	$11.80	2
Overture - Global	43000000005421374	air travel to paris	Standard	Unassigned	Unassigned	paris	Position 1-2 Target	Unassigned	Unavailable	$7.50	13	$5.21	$0.40	448	2.90%	1.86	7.69%	$5.21	$1,513.00	$5.21	1
Google - Global	43000000019449172	air france site	Broad	Air France Brand & French Destinat	Air France Website	uncategorized		Unassigned	Unavailable	$5.00	19	$8.24	$0.43	129	14.73%	1.03	5.26%	$8.24	$2,348.55	$8.24	1
Overture - Global	43000000005421298	cheap fare to paris	Advanced	Unassigned	Unassigned	paris	Position 1-2 Target	Unassigned	Sent	$0.69	29	$26.61	$0.92	559	5.19%	2.33	6.90%	$13.31	$7,418.80	$26.61	2
Overture - US	43000000014278799	air france.com	Standard	Unassigned	Unassigned	airfrance	Position 1-4 Bid Strategy	Unassigned	Paused	$0.31	273	$46.35	$0.17	3,171	8.61%	1.01	3.66%	$4.63	$11,271.85	$46.35	10
Google - US	43000000017532136	air france us	Broad	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$10.00	231	$99.55	$0.43	1,277	18.09%	1.02	8.66%	$4.98	$23,076.65	$99.55	20
Google - US	43000000017532129	airfrance	Broad	Air France Branded	Air France Website	uncategorized		Unassigned	Paused	$10.00	907	$235.11	$0.26	4,352	20.84%	1.01	2.87%	$9.04	$48,551.15	$235.11	26
Overture - US	43000000014278804	cdg flight	Standard	Unassigned	Unassigned	paris	Position 2-5 Bid Strategy	Unassigned	Paused	$0.13	18	$4.75	$0.26	169	10.65%	1.66	5.56%	$4.75	$896.75	$4.75	1
Google - US	43000000017532133	airfrance us	Broad	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$10.00	207	$30.79	$0.15	730	28.36%	1.00	2.42%	$6.16	$5,733.25	$30.79	5
Google - US	43000000014113402	france airline ticket	Broad	Geo Targeted New York	New York to France Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Live	$6.25	2	$2.69	$1.34	24	8.33%	1.54	50.00%	$2.69	$494.70	$2.69	1
Google - US	43000000013069003	airfrance website	Broad	Air France Branded	Air France Website	uncategorized	Position 2-5 Bid Strategy	Unassigned	Live	$0.71	10	$9.94	$0.99	80	12.50%	1.06	10.00%	$9.94	$1,815.60	$9.94	1
Overture - Global	43000000005420920	airplane france ticket	Advanced	Unassigned	Unassigned	airline	Position 1-2 Target	Unassigned	Paused	$0.44	16	$8.31	$0.52	6,073	0.26%	2.46	6.25%	$8.31	$1,473.90	$8.31	1
Google - US	43000000014115425	france airfare sale	Broad	Geo Targeted Miami	Miami to France Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Paused	$6.25	1	$2.76	$2.76	2	50.00%	1.00	100.00%	$2.76	$470.05	$2.76	1
Overture - Global	43000000005421434	air france schedule	Advanced	Unassigned	Unassigned	airfrance	Position 1-2 Target	Unassigned	Paused	$0.33	30	$10.71	$0.36	2,192	1.37%	1.52	3.33%	$10.71	$1,785.00	$10.71	1
Overture - Global	43000000009683629	airfare to tahiti	Standard	Unassigned	Unassigned	tahiti		Unassigned	Paused	$10.00	6	$12.27	$2.05	102	5.88%	4.16	16.67%	$12.27	$1,989.00	$12.27	1
Google - US	43000000014122527	france flights	Broad	Geo Targeted DC	DC to France Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Unavailable	$6.25	6	$18.35	$3.06	137	4.38%	1.20	50.00%	$6.12	$2,810.10	$18.35	3
Google - US	43000000014201100	international airfares	Broad	Geo Targeted Detroit	International Detroit	uncategorized	Position 5-10 Bid Strategy	Unassigned	Unavailable	$6.25	2	$6.60	$3.30	79	2.53%	3.01	50.00%	$6.60	$923.95	$6.60	1
Google - US	43000000014113704	france air ticket	Broad	Geo Targeted New York	New York to France Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Live	$6.25	12	$19.40	$1.62	116	10.34%	1.09	33.33%	$4.85	$2,706.40	$19.40	4
Overture - US	43000000017532937	airfrance.com/us	Standard	Unassigned	Unassigned	airfrance		Unassigned	Paused	$7.50	17	$5.59	$0.33	98	17.35%	0.96	5.88%	$5.59	$778.60	$5.59	1
Google - US	43000000014127450	paris cheap ticket	Broad	Geo Targeted Boston	Boston to Paris Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Paused	$6.25	3	$5.14	$1.71	18	16.67%	1.83	33.33%	$5.14	$676.60	$5.14	1
Google - US	43000000014118997	paris cheap flights	Broad	Geo Targeted Houston	Houston to Paris Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Paused	$6.25	21	$43.39	$2.07	174	12.07%	1.32	14.29%	$14.46	$5,638.05	$43.39	3
Overture - US	43000000007003938	tunis	Standard	Unassigned	Unassigned	regional	Position 1-4 Bid Strategy	Unassigned	Paused	$11.25	36	$25.37	$0.70	832	4.33%	1.41	8.33%	$8.46	$3,254.65	$25.37	3
Yahoo - US	43000000029356928	france travel agency	Standard	Paris & France Terms	France	uncategorized		Unassigned	Live	$6.25	5	$15.44	$3.09	167	2.99%	1.24	40.00%	$7.72	$1,978.80	$15.44	2
Google - Global	43000000005663431	air france airlines	Broad	Air France Global Campaign	Air France	airfrance	Position 1- 3	Unassigned	Unavailable	$1.25	228	$55.31	$0.24	3,747	6.08%	1.42	1.75%	$13.83	$6,873.10	$55.31	4
Google - Global	43000000005663208	lyon airfare	Broad	Air France Global Campaign	Lyon	lyon	Position 1- 3	Unassigned	Unavailable	$1.25	12	$15.02	$1.25	1,030	1.17%	1.31	16.67%	$7.51	$1,836.00	$15.02	2
Overture - Global	43000000005421430	air france web site	Standard	Unassigned	Unassigned	airfrance	Position 1-2 Target	Unassigned	Paused	$0.29	17	$5.39	$0.32	752	2.26%	2.22	5.88%	$5.39	$637.50	$5.39	1
Google - Global	43000000005648300	cont:air france global campaig	N/A	Air France Global Campaign	France	uncategorized		Unassigned	Unavailable	$7.50	49	$11.00	$0.22	4,780	1.03%	4.84	2.04%	$11.00	$1,296.25	$11.00	1
Google - US	43000000017532124	airfrance.com	Broad	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$10.00	1,260	$365.80	$0.29	6,231	20.22%	1.01	2.54%	$11.43	$42,538.25	$365.80	32
Yahoo - US	43000000027382609	airfrance.us	Advanced	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$7.50	242	$87.57	$0.36	1,371	17.65%	1.02	5.79%	$6.26	$10,140.50	$87.57	14
Google - US	43000000013136095	book airfrance	Broad	Air France Branded	Air France Brand	uncategorized	Position 1 -2 Target	Unassigned	Live	$10.00	4	$6.00	$1.50	43	9.30%	1.09	25.00%	$6.00	$671.50	$6.00	1
Google - Global	43000000005663350	nice flight	Broad	Air France Global Campaign	Nice	nice	Position 1- 3	Unassigned	Unavailable	$1.25	28	$36.42	$1.30	2,356	1.19%	1.55	10.71%	$12.14	$3,944.00	$36.42	3
Google - US	43000000017532142	airfrance.us	Broad	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$10.00	25	$6.95	$0.28	132	18.94%	1.00	4.00%	$6.95	$751.40	$6.95	1
Yahoo - US	43000000039658517	rome travel	Advanced	Western Europe Destinations	Rome	uncategorized		Unassigned	Live	$2.70	27	$56.41	$2.09	1,051	2.57%	2.86	14.81%	$14.10	$5,729.00	$56.41	4
Google - US	43000000007147583	rabat flights	Broad	Google_Yearlong 2006	Google|rabat	uncategorized	Postiion 1-4 Bid Strategy	Unassigned	Paused	$6.25	11	$14.07	$1.28	361	3.05%	1.14	9.09%	$14.07	$1,402.50	$14.07	1
Yahoo - US	43000000027382580	airfrance,com	Advanced	Air France Branded	Air France Website	uncategorized		Unassigned	Live	$7.50	48	$7.31	$0.15	298	16.11%	1.00	2.08%	$7.31	$718.25	$7.31	1
Overture - Global	43000000005420948	air france phone number	Standard	Unassigned	Unassigned	airfrance	Position 1-2 Target	Unassigned	Paused	$0.13	65	$9.71	$0.15	1,831	3.55%	2.48	1.54%	$9.71	$947.75	$9.71	1
Overture - US	43000000014278767	airline ticket to france	Standard	Unassigned	Unassigned	france	Position 1-4 Bid Strategy	Unassigned	Paused	$1.26	14	$10.26	$0.73	225	6.22%	2.10	7.14%	$10.26	$991.10	$10.26	1
Google - Global	43000000005663191	airfrance com	Broad	Air France Global Campaign	Air France Website	airfrancewebsite	Position 1- 3	Unassigned	Unavailable	$2.50	548	$247.94	$0.45	2,919	18.77%	1.47	2.19%	$20.66	$23,041.80	$247.94	12
Overture - Global	43000000005421358	new york to paris	Advanced	Unassigned	Unassigned	paris	Position 1-2 Target	Unassigned	Sent	$0.73	39	$24.44	$0.63	2,364	1.65%	3.63	2.56%	$24.44	$2,226.15	$24.44	1
Google - US	43000000005277892	cont:google_yearlong 2006::gc	N/A	Google_Yearlong 2006	Google|Europe	uncategorized		Unassigned	Unavailable	$7.50	112	$31.65	$0.28	157,285	0.07%	2.31	0.89%	$31.65	$2,882.35	$31.65	1
Google - US	43000000013069225	airfrance	Broad	Air France Branded	Air France Brand	uncategorized		Unassigned	Live	$27.50	11,789	$2,412.51	$0.20	78,814	14.96%	1.13	1.85%	$11.07	$216,915.75	$2,412.51	218
Overture - Global	43000000005421406	cheap travel france	Advanced	Unassigned	Unassigned	france	Position 1-2 Target	Unassigned	Sent	$0.48	20	$10.40	$0.52	501	3.99%	2.12	5.00%	$10.40	$935.00	$10.40	1
Google - US	43000000014113121	paris flight	Broad	Geo Targeted Philadelphia	Philadelphia to Paris Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Paused	$6.25	2	$4.89	$2.44	38	5.26%	1.71	50.00%	$4.89	$434.35	$4.89	1
Overture - Global	43000000005421034	airfrance.us	Advanced	Unassigned	Unassigned	airfrancewebsite	Position 1-2 Target	Unassigned	Paused	$0.14	207	$34.87	$0.17	1,100	18.82%	1.17	1.93%	$8.72	$3,035.35	$34.87	4
Google - US	43000000013068975	airfrance airlines	Broad	Air France Branded	Air France Brand	uncategorized	Position 1 -2 Target	Unassigned	Live	$0.35	116	$59.35	$0.51	776	14.95%	1.30	4.31%	$11.87	$5,146.75	$59.35	5
Google - US	43000000014113546	florence cheap tickets	Broad	Geo Targeted New York	New York to Florence Sale	uncategorized	Position 5-10 Bid Strategy	Unassigned	Unavailable	$6.25	3	$5.97	$1.99	6	50.00%	2.00	33.33%	$5.97	$490.45	$5.97	1
Yahoo - US	43000000027413323	air france travel	Advanced	Air France Branded	Air France Brand	uncategorized		Unassigned	Live	$6.25	24	$33.79	$1.41	1,171	2.05%	3.07	4.17%	$33.79	$2,772.70	$33.79	1
Google - US	43000000005278156	rome fare	Broad	Google_Yearlong 2006	Google|Rome	uncategorized	Postiion 1-4 Bid Strategy	Unassigned	Paused	$6.25	14	$20.11	$1.44	310	4.52%	1.49	7.14%	$20.11	$1,489.20	$20.11	1

[12] See spreadsheet accompanying this case for the complete data set.

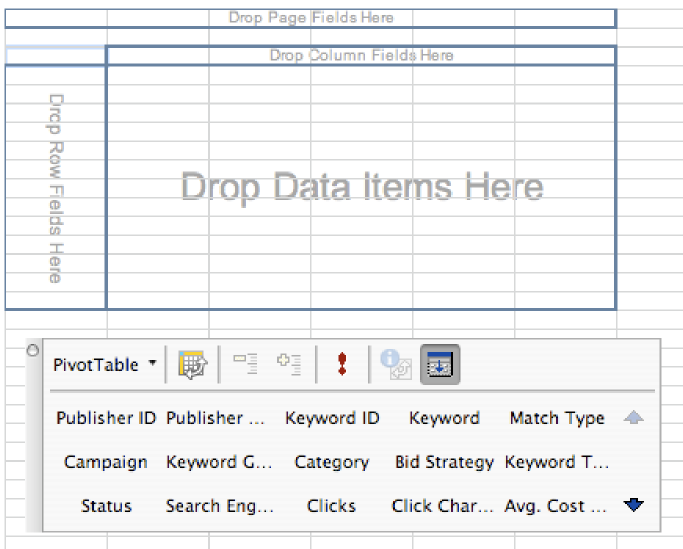
Exhibit 7: Microsoft Excel Pivot Table Overview[13]

Excel PivotTable reports provide the ability to organize, summarize, and analyze data by viewing it in different ways. Views can be created that offer comparisons, reveal patterns and relationships, and analyze trends.

Use the PivotTable Wizard, located in the Data menu, to create PivotTable reports. PivotTable reports are interactive; the table is "pivoted"—that is, its row and column headers are rotated to show data in different ways and to show different summaries of the data.

To create a PivotTable report layout, click a cell in the data to be used to create the report. On the Data menu, click PivotTable Report.

Excel determines the data to include in the report based on the cell selection. By default, it creates a layout for the report on a new tab and includes the column headings as buttons on the PivotTable toolbar.

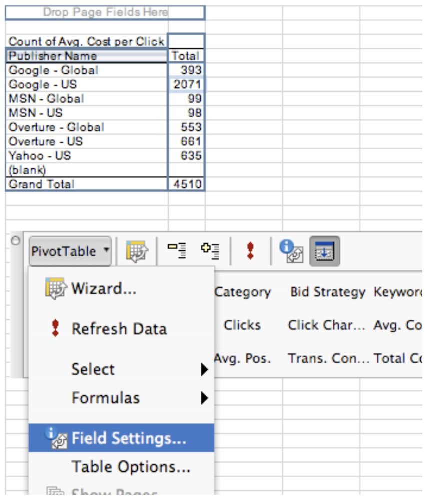


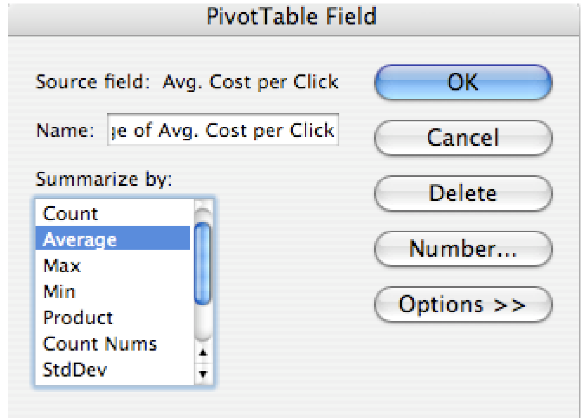
PivotTable reports are created by dragging heading buttons to different areas of the layout. The layout changes appearance as fields are dropped into it. Once the results are seen, simply drag the headings outside the layout area and try a different arrangement.

Click on Field Settings to change the mathematic operator on the data.

[13] From Microsoft Excel Help, *Overview: PivotTable Reports*. Search for PivotTable reports in Excel for the most current tutorial.

Exhibit 7 *(continued)*





Drag other heading buttons onto the table to drill into the data. Consult Microsoft Excel Help for more detailed information.