September 14, 2005

Internet Information Providers: Market Overweight

Closing the Gap: Markets undervalue the room to grow for Internet advertisers

(c) 2005, **Elle Dwight and Max Vontilla**[1]

Composite valuation of $192 Billion represents a 35% upside to current prices.

We believe that market capitalizations among Internet Information Providers (chiefly Yahoo! And Google) undervalue the rate at which advertisers will migrate from offline media to Internet. The disparity between the current level of online media consumption and online ad spend represents massive room to grow for industry leaders for years to come. In addition, a number of potential short-term developments -- such as an explosion in wireless broadband provision, increases in television and film content online, and widespread adoption of new payment platforms – may prolong or even accelerate the rapid growth phase currently enjoyed by the industry, further shoring up valuations.

- Continuing innovation and increasing mainstream adoption will compel companies to flesh out the Internet component of their advertising budgets. Over the medium-term, critical advantages to Internet advertising – in terms of measuring results, targeting advertisements and promotions, delivering superior return on investment, and fostering positive customer relations – will compel advertisers to increasingly favour online advertisements despite legacy habits

- The growth of online advertising agencies and Internet divisions within premier marketing firms should accelerate the migration among advertisers from offline to online media. Eventually advertising spending on Internet

[1] **Please see important disclaimer at the end of this report.**

(currently around 6% of total ad spend) should come in line with online media consumption (30% of total time spent across all media formats). While we see Internet media consumption increasing in time share, “Closing the Gap” between online media consumption and the amount that advertisers spend on Internet ads represents the primary upside opportunity for the industry

- We see ongoing margin support behind continuing consolidation in the industry, particularly behind its two chief players (Google and Yahoo!). Large levels of current capital expenditures should also support the high level of automation in the industry and keep future costs down. While margin erosion should occur gradually, we see long-term EBITDA margins above 40% for the industry, in line with other brand-driven media industries that similarly benefit from pervasive network effects and economies of scale, particularly directories.

- Besides undervaluing growth opportunities into the medium and long-term, we believe industry market capitalizations do not accurately reflect yet untapped profit opportunities on the consumer side. The Internet information industry is being valued almost exclusively on the growth of its current advertiser related cash flows. But we see significant additional profit upside from initiatives and development efforts in the pipeline, particularly those targeting customers rather than advertisers – through payment provision, content on-demand, and various subscription or pay-as-you go offerings.

Industry Description

The Internet Information Provider industry is populated by customer facing firms that generate their sales primarily through families of Internet sites. These companies specialize in creating and / or aggregating content and then attracting eye-balls to their site through the generally free provision of such content. At their core, all such sites, disregarding the smaller niche players, are effectively margin machines relying on advertising: they spend money on enhancing their websites and improving their content offerings while marketing to attract viewers but they resell the eyeballs they attract to advertisers for more than the internal costs for capturing those eyeballs.

As an example, a large Internet information provider (i.e. Yahoo!) spends approximately $0.60 across marketing and operating activities to capture 10 minutes of viewer time across its websites. The firm's loyal base of existing customers, widespread brand recognition, and site efficiency of scale (driven by high fixed costs defrayed over a huge number of viewers), keep these costs down. In turn, the firm can sell those 10 minutes of viewing time on its website to advertisers for $1.00. Furthermore the company can charge more as demand for Internet advertising space increases and ad targeting (placing car ads on pages containing car content for example) drives improving conversion rates (the number of purchases divided by the number of people shown a given ad).

Overall, this industry excludes e-commerce firms (such as eBay and Amazon) as well as Internet software providers or firms that otherwise are generally firm rather than consumer facing. Companies that are part of this industry have mass consumer focused Web sites that supply "neutral" information. That is, they are supplying information from a variety of sources and generally refrain from selling a proprietary product to readers – that is, they aren't selling software, mortgages, cars, other durable goods, or consulting services. Their customers, in a business model sense, are not the readers. The readers merely serve to convince advertisers to buy ad space on their site or across their networks.

Throughout our valuation analysis, we have focused on ten companies in the industry. These represent the major players that are independent, public companies. (There are others that are divisions of larger companies, such as MSN Personal Services division of Microsoft and Internet divisions of large media companies, such as The New York Times.)

Company	**Ticker**	**Market Cap**	**Revenue**	**Net Income**	**Profit Margin**	**Free Cash Flow**
Google	GOOG	$83.83B	$4.48B	$968.09M	22%	$606.69M
Yahoo!	YHOO	$46.73B	$4.41B	$1.59B	36%	$723.26M
CNET	CNET	$2.04B	$318.9M	$18.42M	6%	$8.86M
InfoSpace	INSP	$804.81M	$317.03M	$142.4M	45%	$37.67M
Homestore	HOMS	$622.63M	$228.82M	$-2.84M	-1%	$6.9M

Bankrate	RATE	$441.57M	$41.61M	$13.29M	32%	$3.85M
The Knot	KNOT	$243.51M	$43.55M	$1.78M	4%	$-0.48397M
MIVA	MIVA	$180.97M	$224M	$-112.44M	-50%	$32.19M
Look Smart	LOOK	$103.61M	$56.24M	$-11.96M	-21%	$-2.64M
Tucows	TCX	$68.93M	$47.71M	$5.64M	12%	$1.18M

It is important to note that there are some very large Chinese companies in the Chinese market. We do not consider here, because we based our valuation purely on US advertiser spending. As Google, Yahoo! and others look to expand to China – a big market – they will face competition from these Chinese companies. (See Appendix 1 for information on the largest Chinese companies in Internet Information.) Still, we believe there's lots of growth opportunity for Google, Yahoo! and others simply within the US ad market where they will continue to grab ad share from offline media providers.

As consolidation, particularly behind Yahoo! and Google, characterizes this industry – over 90% of market capitalization and revenues are captured by these two largest players.

	Market Cap	**Revenue**
Total Bucket	$135.06603B	10.16786B
Google	$83.830B	$4.480B
Google %	62%	44%
Yahoo	$46.730B	$4.410B
Yahoo %	35%	43%
Google&Yahoo %	**97%**	**87%**

In addition, roughly 50% of all advertising dollars spent online accrue to these Internet Information Providers and we have focused on Internet ad spending as the primary valuation driver.

Here are basic description of the ten companies comprising our industry basket:

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Google, Inc.	GOOG	84.6 B			

Google, Inc. provides Internet search for free and runs advertisements on its search sites and on thousands of other Web sites that have signed up to display Google ads.

Google also provides free e-mail to consumers through its gmail services and displays advertisements alongside user e-mails. Google's direct competitors are America Online, Inc., MSN and Personal Services Group (of Microsoft), and Yahoo! Inc.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Yahoo! Inc.	YHOO	47.03 B			

Yahoo! Inc. hosts a free Web portal with news and entertainment, a search site, personalized home pages and e-mail for consumers. Yahoo! also partners with companies like Verizon and SBC Communications to provide DSL Internet service. Yahoo! works with businesses for fees to develop their Web portals and streaming communications and attracts advertisements across its network and on partner sites through its Overture division. Direct competitors: America Online, Inc.; Google, Inc.; MSN and Personal Services Division.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
CNET Networks Inc.	CNET	2.01 B			

CNET Networks Inc. creates and posts Web content, primarily about personal and business technology as well as gaming. The site offers free software downloads, message boards for users to comment on technology products and news on technology. Direct competitors: CMP Media LLC; other online publishers.

Company	**Ticker**	**Market Cap:**	**P/E**	**Closing Price 9/16**	**52wk Range:**
Infospace Inc.	INSP	804.81M	6.41	24.59	23.57 – 57.92

Infospace Inc. owns several pages, including webcrawler.com and dogpile.com, that combine search engines Google, Yahoo! and others in search functions. The company also offers directory services online as well as mobile phone media products and technology for mobile phone companies. Direct Competitors: Google, Inc.; Yahoo! Inc.

Company	**Ticker**	**Market Cap:**	**P/E**	**Closing Price 9/16**	**52wk Range:**
Homestore Inc.	HOMS	622.63M	135.86	4.22	1.65 – 4.44

Homestore Inc. provides free real estate information online, such as property listings across the country, at realtor.com, homestore.com and homebuilder.com. Direct Competitors: Realigent, Inc. (owner of homeseekers.com)

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Bankrate Inc.	RATE	441.57M	34.06	27.93	9.20 – 28.23

Bankrate Inc. publishes personal finance information online at Bankrate.com about topics including mortgages, money market accounts and credit cards. The company also publishes print newsletters and a local consumer mortgage guide weekly in local newspapers across the country. Direct Competitors: E-LOAN, Inc.; Morningstar, Inc.; The Motley Fool, Inc.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Knot Inc.	KNOT	243.51M	81.72	10.7001	2.75 – 11.56

Knot Inc. operates theknot.com and a wedding magazine. The Web site provides wedding product information, registry services and product referrals. Direct Competitors: iVillage Inc.; WeddingChannel.com, Inc

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
MIVA Inc.	MIVA	180.97M	??	5.88	4.07 – 24.70

MIVA Inc. operates search engine, findwhat.com as well as an e-commerce software and service business for small- to mid-size companies. Direct Competitors: Google, Inc.; Yahoo! Inc.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Look Smart Ltd.	LOOK	103.61M	??	.91	.55 – 2.30

Look Smart Ltd. runs a search engine at looksmart.com and an article search site at findarticles.com. Also operates an online book-marketing service as well as a subsidiary, Net Nanny Services, which produces software. Direct Competitors: Google, Inc.; Yahoo! Inc.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Tucows Inc.	TCX	68.93 M	12.47	1.01	.47 – 1.32

Tucows Inc. operates tucows.com, which offers free downloads of software as well as technology product reviews and referrals. The company also provides back-office services to companies. It also sells Web domain names and other Web site services. Direct Competitors: Network Solutions, Inc.; Register.com, Inc.; CNET Networks Inc.

Industry Drivers – The Advertising Market

Several of our bucket companies make money through other activities than advertising. However advertising revenues comprise the lion's share of industry sales and are the foundation for overall growth across the industry, and so, we will focus our valuation on advertising income.

Relevant Data and Trends

The main trend for the growth of the Internet Information Industry is increased Internet usage worldwide. According to the Pew Internet & American Life Project, by the end of 2004, about 70 million Americans over age 18 used the Internet each day. That means that just over one-third of the adult population going online on any given day. This level is 37 percent over the number of Americans in 2000 who logged on during a typical day, according to Pew study in 2000.[2]

Internet users are also using the Web to do a wider variety of tasks than they did just a few years ago. Pew studies have also found that one-quarter of all American adults do their banking online,[3] 36 million Americans read Web logs at the end of 2004[4] and about that same number – which is 27 percent of all Internet users – download music from the Internet.[5] In addition, about 11 million Americans participate in online fantasy sports leagues,[6] and about 80 percent of Internet users have looked up health information online.[7]

As Americans spend more time online, so advertisers have become more interested in reaching them online. The Internet Advertising Bureau, which represents companies

---

[2] Horrigan, John and Rainie, Lee. "How the internet has woven itself into American life" *Pew Internet & American Life Project*. January 25, 2005.
[3] Fox, Susannah. "Online Banking 2005: A Pew Internet Project Data Memo" *Pew Internet & American Life Project*. February 9, 2005.
[4] Rainie, Lee. "The State of Blogging." *Pew Internet & American Life Project*. January 2, 2005.
[5] Madden, Mary and Rainie, Lee. "Music and Video Downloading." *Pew Internet & American Life Project*. March 23, 2005.
[6] Rainie, Lee. "Online sports fantasy leagues." *Pew Internet & American Life Project.* June 17, 2005.
[7] Fox, Susannah. "Reports: Health" *Pew Internet & American Life Project*. May 17, 2005.

that generate 86 percent of online advertising, has reported growth in online revenues for 9 straight quarters. This growth comes after a dip in revenues following the Internet bubble bursting in 2001. Over the last two years, online revenues have risen above where they stood at the bubble's peak.

Year	Online Ad Revenues (in US)
1997	$0.907 billion
1998	$1.92 billion
1999	$4.621 billion
2000	$8.087 billion
2001	$7.134 billion
2002	$6.01 billion
2003	$7.267 billion
2004	$9.626 billion

The most recently released results – for the first quarter of this year – were that online advertisers pulled in $2.8 billion in worldwide sales from January through March of 2005. This represents a 26 percent increase over the first quarter of 2004, putting online information providers and other online advertising providers on track to surpass 2004 revenue totals of more than $9.6 billion.[8] (The IAB's studies of the revenue are completed by PriceWaterhouseCoopers.) The IAB's president and chief executive, Greg Stuart, said at the end of last year:

> "Interactive advertising has clearly become a mainstream medium and one that can no longer be ignored as a critical piece of any marketing mix. The PwC 2004 figures reported indicate that interactive is firing on all cylinders including display, search and classifieds and is squarely on track to surpass consumer magazine revenues."[9] - Greg Stuart, president and chief executive of the Internet Advertising Bureau

Advertisers are increasingly saying that they want to their marketing dollars to follow where their customers are spending their time and attention – even if it means redirecting their advertising budgets. "We need to redirect our resources into areas that are paying off for us, such as online," John Rinek, director of media and agency management for Nissan, said this summer. Mr. Rinek predicted that most of Nissan's redirected money would come from its television advertising budget.[10]

---

[8] Press Release. "First Quarter 2005 Highest Internet Ad Revenue in Nine Consecutive Growth Quarters." *Internet Advertising Bureau*. May 24, 2005.
[9] PriceWaterhouseCoopers."2004 IAB Internet Advertising Revenue Report." *The Internet Advertising Bureau*. April 2005.
[10] Barnett, Megan. "All the News that Clicks." *US News & World Report*. August 1, 2005.

Forrester Research finds that about 30 percent of the time that Americans spend enjoying media is through online media (rather than television, magazines and newspapers, for example)[11], but we find that Internet advertising is well below 10 percent of all media spending – likely close to 5 percent, depending on which numbers are used in the estimate. This "Gap" between consumers' time spent by medium and marketers' dollars demonstrates real room to grow for online advertising.

Online advertising currently represents a rapidly growing yet disproportionately small (relative to customer time spent online) piece of the overall advertising pie. In the first half of 2005, for example, $70.5 billion was spent by U.S. advertisers across all mediums but Internet advertising accounted for less than $4 billion – or just under 6 percent.[12] Ultimately, as the Internet has grown in terms of time people spend online and adoption (as measured by Internet subscribers or total unique monthly visitors) online activities -- chiefly email, search, and portal browsing – have come to represent an exploding share of consumer time spent across all media. Advertisers have been slow to respond to the new media, largely out of risk aversion and habit. But we expect that to change. Forrester Research – which conducts surveys of national marketers about their spending plans – said earlier this year that it thinks online ad spend will be up to $26 billion within 5 years – a 250 percent increase for current levels.[13]

As Yahoo! and Google become increasingly established worldwide and form the bulwark for a growing online ad agency industry, more and more companies are shifting their budgets online. Google in particular has shown success attracting medium and small advertisers who have been historically underserved by advertising agencies and offline media offerings. In putting small budgets to work, effectively attracting customers and driving sales in local or specialized markets, Internet Information Providers are actually growing the size of the overall advertising pie even while attracting a greater share of that pie. Overall we see Internet advertisements

---

[11] Li, Charlene. Forrester Research. March 2005.
[12] Press Release. "U.S. Advertising Market Grows 4.5 Percent in First Half of 2005
TNS Media Intelligence Reports Ad Spending Topped $70.5 Billion During First Six Months of Year." *TNS Media Intelligence.* September 6, 2005.
[13] Li, Charlene. Forrester Research. March 2005.

being superior to offline mediums in a number of key areas that should support online gaining share from offline for a long time to come:

- Tracking – Of key importance to advertisers, Internet Information Providers can better show the exact efficacy of individual ads in terms of impressions, conversions (i.e. click-through rates), and sales. To an extent impossible in newspaper or television campaigns, Internet advertisers can measure the benefit from advertising to clients in terms of actual penetration and ultimately closer measures of sales. Superior tracking allows advertisers to budget better and improve campaigns faster. At the margins, this measurement advantage makes selling online ad sales easier and attracts customers from offline media in increasing numbers.

- Targeting – Internet Information Providers are increasingly able to offer advertisers targeted exposure to very specific demographic or geographic constituencies. In this way, online ads are being shown to the most predisposed audiences (i.e. customer's within 1 mile of a pizza place), resulting in a triple benefit unattainable by mass media such as television or radio: advertisers pay only for the eyeballs that are most valuable to them, users only see ads that have potential relevance to them, and Internet Information Providers can segment the page impressions they have for sale and charge higher average prices in tandem with superior value delivered.

- Superior ROI – Through automation of sales and the near-zero variable costs associated with serving up information online, Internet Information Providers have the capacity to become the low-cost provider of customers to a wide range of businesses. As an ad sales and ad display channel, the Internet seems many times more efficient than offline media, particularly in classifieds (e.g. recruitment) and customer acquisition.

- Positive Customer Relations – as customer's become more and more inundated by advertisements and become savvier to marketing methods, advertisements are becoming less and less effective in general. As customers

> turn away from traditional ad-laden media (using digital video recorders rather than watching TV directly, staying home with DVDs, turning to satellite or commercial free Internet radio stations, and cancelling newspaper subscriptions) they will continue to seek input for their purchasing decisions. Looking forward, Internet advertisements, through superior targeting and non-invasive presentation formats (as pioneered online by Yahoo! and Google), and comparison shopping / review sites can relevantly inform consumers and drive purchases. Internet Information Providers may thus offer companies a far more effective and customer friendly medium for long-term inventory advertising and branding.

For years to come, we see no reason why Internet advertising should not continue to steal market share from offline mediums. In the long-run, we see online advertising occupying a fraction of marketing budgets that is far more commensurate with the fraction of media viewing occurring on the Internet vs. offline channels. From a six percent position today, we believe Internet advertising spending should continue historical growth above 35% at the expense of offline media, particularly as international growth in spending has run above 50% year on year since 2003.

In terms of distribution of advertising dollars among Internet Information Providers and other online advertisers, the largest companies in the online field gain most of the money. For the past few years, the top 10 companies in terms of size have collected about 70 percent of all online ad dollars.[14] **If we look at Q1 2005, of roughly $4 billion dollars spent on online advertising worldwide, the top ten Internet Information Providers booked a total of $2.1 billion in sales.** For the purposes of our estimates we thus assume that our industry will continue to garner approximately half of all online ad spend in keeping with the logic that Internet Information Providers are the primary conduits for Internet advertisements as opposed to E-commerce sites and Internet software providers who garner revenues from other major sources. It is important to note that divisions engaged in Internet Information

[14] PriceWaterhouseCoopers."2004 IAB Internet Advertising Revenue Report." *The Internet Advertising Bureau*. April 2005.

Provision, such as the MSN division of Microsoft, are not included in our industry valuation and represent a large fraction of the online ad spend going to other firms.

U.S. Advertising Spending by Media: First Half 2005 vs. First Half 2004[15]

MEDIA	Jan-June 2005 (Millions)	Jan-June 2004 (Millions)	% CHANGE
NEWSPAPERS (LOCAL)	$12,238.30	$12,029.00	1.70%
NETWORK TV	$11,692.80	$11,214.10	4.30%
CONSUMER MAGAZINES	$10,500.60	$9,621.80	9.10%
CABLE TV	$7,935.80	$6,881.50	15.30%
SPOT TV	$7,339.30	$7,819.10	-6.10%
INTERNET	**$3,961.80**	**$3,621.90**	**9.40%**
LOCAL RADIO	$3,589.90	$3,537.30	1.50%
B-TO-B MAGAZINES	$2,523.70	$2,461.50	2.50%
SYNDICATION – NATIONAL	$1,994.60	$1,924.90	3.60%
HISPANIC MEDIA	$1,953.40	$1,889.60	3.40%
OUTDOOR	$1,693.90	$1,550.10	9.30%
NATIONAL NEWSPAPERS	$1,688.80	$1,642.10	2.80%
NATIONAL SPOT RADIO	$1,243.30	$1,214.30	2.40%
FSI's	$778.70	$744.20	4.60%
SUNDAY MAGAZINES	$752.80	$698.80	7.70%
NETWORK RADIO	$486.90	$503.60	-3.30%
LOCAL MAGAZINES	$200.00	$160.80	24.40%
TOTAL	$70,574.60	$67,514.60	4.50%

Internet Information Providers earn approximately half of the online ad dollars. Companies like Google and Yahoo! earn money even from ads not located on their own sites through their ad placement programs that place ads on other publishers'

[15] Ibid.

sites. The potential for more growth in Internet advertising reflects the likelihood that Internet Information Providers can sell more ads in the future and raise their historically low rates, as well. One change in the industry is a movement away from the domination of cost-per-click advertising. That method of calculating prices was, in the early years of the Internet, often the only way to lure advertisers only. Cost per click means that advertisers only pay when their ad is clicked on. All other advertising in other media formats is priced on a cost per image basis – in other words, it's priced based on an estimate of how many people see the ad rather than how many people act on it. As Internet advertising has gained credibility, in many cases, its pricing models are moving towards a price per image model – which will likely generate better and more certain revenues for online companies.

In addition, search advertising is currently growing the most quickly among online advertising methods.[16] Several companies in the Internet Information Providers industry provide search functions, chiefly Google and Yahoo!, and are already benefiting from search marketing spend. Just like overall Internet advertising, search marketing increases as Internet users increasingly use search programs. This Internet function is part of a general consumer trend of consumers wanting more specific information available on demand.

Growth in Search

Year	Worldwide Search Revenues	Worldwide Total Revenues	Search % of Total	Search Year over Year growth
2000	$ 0.081	$ 8.087	1%	
2001	$ 0.285	$ 7.134	4%	252%
2002	$ 0.901	$ 6.010	15%	216%
2003	$ 2.543	$ 7.267	35%	182%
2004	$ 3.850	$ 9.626	40%	51%

$ in billions

Source: Interactive Advertising Bureau[17]

[16] PriceWaterhouseCoopers."2004 IAB Internet Advertising Revenue Report." *The Internet Advertising Bureau*. April 2005.
[17] Ibid.

A Back of the Envelope Valuation

The primary valuation metrics for the advertising industry[18] are:

- Total **US** advertising spend across all media
- Percentage of total media consumption (**by time spent**) occurring online
- Size of the gap between the percentage of total media consumed online and the percentage of advertising dollars spent online
- Percentage of online advertising dollars captured by the Internet Information Provider industry
- Percent of Internet Information Provider revenues garnered from advertising activities
- Overall Free cash flow margin (equivalent to net income) among Internet Information Providers

Overall Industry Valuation Today (year zero) = $180 Billion
Define this

Industry Valuation Future = [Total U.S. Ad Spend * Gap * (Total time online / total time spent across all media) * % of online ad spend going to Internet Information Providers in the future * [Gross-up factor to account for non-US ad revenues] * Gross-up factor to account for non-advertising activities * Net Income Margin] / Discount rate

We assume that Internet Information Providers will eventually enjoy a gap factor of **0.67** with Net Income margins of 33% and 50% of revenues coming from the U.S. We consider these assumptions to be conservative and **explain our derivations below**. Valuation at this projected stable point may be derived assuming perpetuity growth of 5%, in line with the global economy of 3.5% in the long term but taking

[18] As Internet Information Providers tap new revenue sources, additional metrics will drive profits and ultimately valuation. Still, for the purposes of our explicit valuation, we have ignored revenue sources that have yet to be demonstrated while maintaining that ample upside potential exists to support our Overweight recommendation. Other revenue sources these companies are developing should generally increase reasonable industry valuations.

into account higher growth years early on. We also discount throughout using the discount rate of today of 11.5%. In fact we believe the industry has additional long term growth potential and that future discount rates may be overestimated, but we err on the side of caution.

If we assume that the Internet Information Provider industry will reach this point in X years, we can project Net Income using our formula above:

$\$140B * 0.67 * ((74 * 1.15^{X}) / (280 * 1.04^{X})) * 50\% * 1 / 50\% * 125\% * 33\%$[19]

The table below shows implied growth rates over today's net income figures until this stable state is reached. The table also displays implied net present valuations of the perpetuity portion for this industry, the net present value of the near-term cash flows, and the implied net present value for the industry depending on our chosen length of time, X.

X (years)	Net Income	Implied Annual Growth	Implied Perpetuity PV	Implied PV of Near-term Cash Flows	Ir
3	$13.62	51%	$151.16	$26.34	
4	$15.06	42%	$149.90	$31.79	
5	$16.65	36%	$148.66	$37.20	
6	$18.41	32%	$147.43	$42.57	
7	$20.36	29%	$146.21	$47.89	
8	$22.52	27%	$145.00	$53.15	
9	$24.90	25%	$143.80	$58.37	
10	$27.53	24%	$142.61	$63.53	

Net Income figures and PV estimates are stated in Billions of $USD

We note that in fact larger X values imply marginally higher discount rates imply higher valuations for the industry due to more years of super-growth before a more stable growth state is reached. For our valuation of the industry, we use a range of $178 to $206 Billion, representing a 25% to 45% upside to today's market prices.

Our average valuation of $192 Billion represents a 35% upside to current levels.

[19] We note that the percentage of media consumption occurring online in the U.S. is increasing dramatically with time in our model. We believe that this may overestimate the growth of online consumption past the 50% mark but that this fault offsets a gap factor which is likely to increase above 0.5 as Internet advertising is established and price pressures on Internet Information Providers ebb. Thus we have left the model as is with these offsetting simplifications.

Overall our valuation is fairly insensitive to most variables, with net income margin and terminal growth rates having relatively large impact.

We note as well that compared to annual net income growth of [x,x, and x] during years 2003, 2004, and 2005 respectively, our growth rates seem reasonable.

To value our industry we have chosen to focus only on the ten largest firms among Internet Information Providers by market capitalization. In defining market size, we have primarily used figures for the US advertising market and Internet penetration rates and extrapolated worldwide market size for comparisons to the US market and global Internet penetration figures. This adjustment to account for worldwide and not only U.S. online ad-spend is accomplished by use of a gross-up factor >1 to account for non-US ad revenues.

Relevant annual U.S. advertising expenditures across all media today represent $140 Billion. This figure has grown historically at 3-4% and we believe this growth will continue, roughly staying on pace with projected GDP growth as we would expect for a mature industry.

Total hours spent consuming media in the US during 2004 was equal to [280 billion hours]. This was made up by [265 million people] spending an average of [**20 hours / week] consuming media (**TV, newspaper, radio, Internet, etc.[20]) multiplied by 52 weeks / year

*Total U.S. media consumption = 265 million * 20 hours / week * 52 weeks / year = 280 billion hours*

We see population growth to remain constant around today's rate of [2%] given U.S. census forecasts. We see media consumption figures growing slightly at [2%] constant given historical upward trending due to improving media content and provision channels. Still, the fixed number of hours in a day and average hours in a

---

[20] Film consumption is measured separately and is pertinent to the movie industry rather than general ad provision sectors

standard work week establish a strong ceiling on this growth. Thus overall we project U.S. media consumption growth around 4% over the medium term.

Total U.S. Online media consumption during 2004 was equal to [74 billion hours]. This was made up by [142 million] active Internet users spending an average of [10 hours / week] online multiplied by 52 weeks / year

*Total U.S. online media consumption = 142 million * 10 hours / week * 52 weeks / year = 74 billion hours*

We believe this figure should grow sharply in the medium term as the number of Internet users and the % of broadband users increase. Active Internet users have been growing at [10%] per annum in recent years and we expect this growth to continue over the next 2 to 5 years as connection and computer prices continue to fall and as the Internet becomes more and more integral to education and entertainment. We also see increasing broadband adoption, in line continuing trends and observed adoption patterns in more mature Internet markets in Korea and Scandinavia for example, as a driving force behind growth in average hours spent online per user per week. Overall we see Total U.S. media consumption to grow by 10 – 20% per year over the next 3 to six years and use an estimate at the midpoint of this range of 15% per annum.

The "Gap" between the fraction of total media consumption occurring online and the percentage of ad spend allocated to online cu**rrently is quantified by a "Gap" factor around 0.2.** By this we mean that only 6% of total ad spending is being allocated to online as of Q1 2005 despite 30% of total media consumption occurring online. Thus, the "Gap" factor between ad allocation and underlying consumption stands at 6% divided by 30% or approximately 0.2. Given the overall superiority of Internet advertising as outlined above, we see price pressures online versus offline (a consequence of measurability and decreased geographic barriers to industry provision) and branding considerations[21] maintaining a persistent gap even in the

[21] Historically television and radio for example were considered channels that held long-term branding value that justified premium pricing relative to other inventory advertising venues. The Internet in particular has been viewed as less of a brand advertising medium. Still, we see these distinctions as largely artificial and eroding over time as the Internet becomes an established advertising medium and in light of increasing evidence that effects of marketing campaigns remain extremely short-lived. On

medium to long-term. Still we believe that the disparity between media consumption and ad spending will narrow, corresponding to a "Gap" factor closer to 1. We estimate our "Gap" factor will rise by 4 to 10 percentage points per year into the foreseeable future[22] approaching parity (i.e. a "Gap" factor of 1 corresponding to online garnering the same share of ad spending as media consumption). We see a "Gap" factor around 0.66 as a reasonable levelling-off point assuming Internet advertising continues to be at a discount to offline advertising of approximately the same efficacy. A price point for Internet advertising around 60% of equivalent offline advertising seems reasonable given pricing by existing online-offline firms. Thus newspapers, classified ad publishers, and other ad-driven information providers price online offerings around half the price of equivalent offline offers.

We see advertising based revenues continuing to account for the lion's share of Internet Information Provider's sales in the near future. For the purposes of our valuation we have used a gross-up factor of 125% to get total sales from advertising revenues, in keeping with figures for 2003, 2004, and Q1 2005. In performing this analysis we have only used data from Yahoo! and Google given that the combined market capitalizations of these two firms represents more than 90% of our industry. Ultimately we see gross-up ratios of 100% (i.e. no non-ad revenues) to 150% as plausible as non-advertising paid services gain prominence online over the next decade. A gross-up factor of 125% (i.e. representing 20% of total revenues coming from non-advertising operations) might be supported by payment provision for example given that **eBay derives almost 30% of its revenues from PayPal and that these revenues are growing the fastest within the company.** If announced and rumoured Google initiatives to provide a new payment platform (Google Wallet) or nationwide wireless access[23] take off, it is not hard to imagine that a growing share of Google revenues will come from non-advertising activities. Likewise nascent Yahoo! music or video content initiatives might gain significant stature within the company in

---

average, over 90% of super-bowl audiences could not identify which competing company had aired a sample ad after one month had elapsed.

[22] As an illustrative example, if currently media consumption online stands at 30% of total consumption and online ad spending represents 6% of total ad spend, "Gap" is defined as 6% / 30% = 0.2. If next year online consumption is at 33% and ad spending is at 9%, then "Gap" would be 9% / 33% = 0.27. Thus we could say that "Gap" factor rose by 7 percentage points from 0.2 to 0.27.

[23] See August 2005 Business 2.0 article on GoogleNet among others

the medium-term. Already, both companies garner more than 5% of sales from non-advertising activities.

To account for non-US advertising revenues to derive total revenues for Internet Information Providers, we begin from the current data showing that approximately [30%] of revenues come from international operations. This is compared to [20%] in 2003 and [25%] in 2004, focusing on Google and Yahoo!. In the future, as Internet advertising catches on and global Internet adoption continues to increase, we see a larger and larger share of revenues coming from oversees operations. Given that just 21.6 percent of Internet users reside in the U.S.[24] and that the U.S. represents just 40 percent of global ad spending,[25] a 50%+ level for companies that can easily use the Internet to enter new geographies seems reasonable and is supported by industry comments:

> "There's a window of opportunity around the world for these companies to come in and become the dominant player," said Ken Marlin, managing partner of boutique investment firm Marlin & Associates, in a recent New York Post article.[26]
>
> Mark Mahaney, a Citigroup analyst, noted that Google's international revenue grew at twice the rate of its domestic revenue. International growth was 149 percent year-over-year while domestic was 75 percent year-over-year for its U.S. unit - in the second quarter 2005.[27]

Overall we see the share of revenues coming from abroad increasing by 3 – 6 percentage points per year, in line with historical figures and reaching a level of 50% at some point in the next decade. For the purposes of our valuation, this translates to a current gross up factor of 1 / (1 – 50%) = 2. The gross up factor in year X, assuming an annual increase of 4.5% in the percentage of revenues coming from abroad, would then be 1 / (1 – 30% - 4.5% * X).

Finally we see net income margins being in the 30 – 40% range in the next 3 to 10 years. A 33% net income level would be in keeping with other brand driven industries with high barriers to entry arising from prevalent network effects (i.e. directory publishing), adjusted for cost advantages inherent in online versus print

[24] "Internet World Stats." By "All About Market Research" at http://www.internetworldstats.com/stats.htm
[25] "Global Entertainment and Media Outlook: 2005-2009." *PricewaterhouseCoopers*. June 22, 2005.
[26] Lauria, Peter. "Search Engines Explode Abroad." *The New York Post*. August 21, 2005.
[27] Lauria, Peter. "Search Engines Explode Abroad." *The New York Post*. August 21, 2005.

content provision costs. A 55% EBITDA level, above current levels of 50%, would result from increased pricing power and further economies of scale as consolidation and market growth continue. Overall we see industry EBITDA margins shrinking from their current levels above 50% to around 40% by 1 – 3 percentage points per year in keeping with limited company guidance -- primarily provided by Yahoo!, and CNet. In setting profit levels at the high and low end of our projected range we have taken into account the ability of Internet advertisers to exploit geographic flexibility of operations (i.e. Internet Information Providers can be based anywhere and serve customers seamlessly in contrast to more local retail or natural resource based businesses) to minimize taxes. On average Internet Information Providers pay lower tax rates, [26% compared to a market average around 35%], which translates to higher net income margins. We thus believe that a 33% net income level used in our valuation, compared to 42% today is quite conservative and may in fact not take in to account opportunities to increase prices as demand grows.

For the purposes of valuation we have ignored the effects of any interest payments or debt tax shields as companies in this industry universally employ little to no long-term debt.

Throughout our calculations we have used a discount rate of 11.5% in the absence of any relevant debt levels. Given a lack of historical data for many key companies due to recent IPOs (for Baidu and Google primarily) we have turned to analyst reports and relied chiefly on consensus estimates for Yahoo! and Google as these companies comprise the majority of the industry by sales and market cap. Given a risk free rate of [3.5%] from 10 year treasuries and a market premium for the S&P of 5.5%[28] Using these levels, we get an implied beta for the industry of 1.55 which seems reasonable given exposure to cyclical ad spending.

$$Re = Rf + Be * (Rm - Rf) \rightarrow Be = (Re - Rf) / (Rm - Rf) = (11.5\% - 3.5\%) / (5.5\%)$$

[28] Historically this has been 7% since 1920 when data is available. We have used a slightly lower rate, halfway within the 4 – 7% range containing most mainstream recommendations for forward market premium. We have used a lower rate because we believe the Internet and the growth of broker services have allowed more people to invest in the market and greater risk sharing overall.

Other Prospects for Growth

Growing Internet Use

We have focused on current Internet users in our analysis – but the industry stands to grow by a much larger amount, depending on Internet adaption. For example, in the U.S., just 69 percent of the population uses the Internet. As more Americans use the Internet, the percent of US media consumption on the Internet will grow – and ad spending should follow.

Internet adaptation is lower than US levels around the rest of the world – presenting even greater growth opportunities that we believe have not been priced in. (We believe this because we've already found that the current market prices do not even price in all of the US potential, much less the world potential.) Here is a chart showing Internet usage around the globe. As you can see, there is potential for many, many more people to become Internet users – and, thus, eyeballs the Internet Information Provider industry can count as it tries to sell more ads to global and foreign companies:

WORLD INTERNET USAGE AND POPULATION STATISTICS

World Regions	Population (2005 Est.)	Population % of World	Internet Usage, Latest Data	Usage Growth 2000-2005	% Population (Penetration)	World Users %
Africa	896,721,874	14.00%	**16,174,600**	258.30%	1.80%	1.70%
Asia	3,622,994,130	56.40%	**323,756,956**	183.20%	8.90%	34.50%
Europe	731,018,523	11.40%	**269,036,096**	161.00%	36.80%	28.70%
Middle East	260,814,179	4.10%	**21,770,700**	311.90%	8.30%	2.30%
North America	328,387,059	5.10%	**223,392,807**	106.70%	68.00%	23.80%
Latin America/Caribbean	546,723,509	8.50%	**68,130,804**	277.10%	12.50%	7.30%
Oceania / Australia	33,443,448	0.50%	**16,448,966**	115.90%	49.20%	1.80%
WORLD TOTAL	**6,420,102,722**	**100.00%**	**938,710,929**	**160.00%**	**14.60%**	**100.00%**

from: Internet World Stats http://www.internetworldstats.com/stats.htm

New Products

Google, Yahoo! and others have made no secret about the fact that they are testing new products – such as wireless services. Each of these companies has thousands of programmers at work – and if they develop a new product with even 1/10 the potential of search, there would be tremendous new revenue potential.

Appendix 1: Chinese Internet Information Providers

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Netease.com, Inc.	NTES	2.7 B			

Netease.com, Inc. provides free Chinese-language Web content and services, including search, directory services and matchmaking sites. Several of its programs are linked into wireless services. Direct competitors: CDC Corp.; Sina Corp.; Sohu.com Inc.; Baidu.com, Inc.; Google, Inc.; Yahoo! Inc.

Company	Ticker	Market Cap:	P/E	Closing Price 9/16	52wk Range:
Baidu.com, Inc.	BIDU	2.6 B			

Baidu.com, Inc. provides Chinese and English site search services for free and develops software for search and other online purposes. Direct competitors: CDC Corp.; Sina Corp.; Sohu.com Inc.; Netease.com, Inc.; Google, Inc.; Yahoo! Inc

Company	**Ticker**	**Market Cap:**	**P/E**	**Closing Price 9/16**	**52wk Range:**
Sohu.com Inc.	SOHU	629.2M	24.65	17.33	17.15 – 17.51

Sohu.com Inc. runs several online services for Chinese individuals and businesses, including Web portal sohu.com and search engine sogou.com. It also runs video game, real estate and map sites. Direct Competitors: Baidu.com, Inc.; CDC Corp.; Sina Corp.; Google, Inc.; Yahoo! Inc.

Important Disclaimer

Please read this document before reading this report.

This report has been written by MBA students at Yale's School of Management in partial fulfillment of their course requirements. *The report is a **student and not a professional*** report. It is intended solely to serve as an example of student work at Yale's School of Management. It is not intended as investment advice. It is based on publicly available information and may not be complete analyses of all relevant data.