



**Economic Value of the Advertising-
Supported Internet Ecosystem
EXECUTIVE SUMMARY**

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Executive Summary

In two decades the Internet has become central to social and economic life and is, today, a mature and integral element of the U. S. national economy. It is not only vital infrastructure, it is a spur to entrepreneurship and social change. It has changed the way firms find customers, customers find information, and people manage social relationships. It contributes significant value to the US economy by creating and maintaining jobs, facilitating the rapid flow of information, and generally enabling the growth and prosperity of businesses. The Internet is not just a resource for large corporations: it has created unprecedented opportunities for growth among small businesses and individual entrepreneurs.

Originating as a project funded by the Department of Defense, the Internet grew to maturity without either major public funding or monopoly protection, unlike other categories of infrastructure such as the interstate freeway system, the national defense system, the telephone service, the postal service, and most public utilities. Payments for Internet marketing and advertising services are important sources of revenue that enable the Internet to function. The first contribution of this report is to demonstrate just how important Internet advertising—construed broadly as all those activities that help firms to find and keep customers—is to the maintenance of the Internet and, by extension, to the operation of the United States economy. Further, public policy toward the Internet has largely been defined by the absence of central planning. Perhaps as a consequence, there is little information mapping the scope and scale of the Internet resource. A second contribution of this report is to map the firms associated with the Internet and to identify the economic and social benefits that flow from it.

The economic analysis has four major components. It:

1. defines the size and scope of the advertising-supported Internet economy and identifies the participants;
2. determines and values employment directly or indirectly created by the marketing-supported internet;
3. calculates the payments by the rest of the economy to the Internet sector
4. estimates the value of the advertising-supported Internet based on the time consumers devote to using the Internet.

In addition, the study identifies further social and economic benefits of the advertising-supported Internet.

Advertising-supported Internet

The advertising-supported Internet refers broadly to all activity on the Web intended to promote marketplace exchange of products, services, or information. Paid online advertising is one component, although that is one segment identified below. In addition, most e-commerce websites perform a substantial information and promotional function, to encourage commerce. Therefore, e-commerce providers can be thought of as Internet advertisers. Many websites that do not conduct e-commerce also perform an informational advertising function. On behalf of both for-profit and not-for-profit enterprises, they take the place of magazine advertising,

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brochures, and direct marketing, educating the consumer on features and benefits of the organization's offerings. Additionally, e-commerce sites and company websites collect data about customers and prospective customers. They perform an interactive advertising function analogous to sales forces. So, too, do e-mail solicitations, another form of interactive advertising on the Internet. Internet-enabled economic activity is a dynamic system. New advertising methods, such as the development of paid search in 2003, have expanded the amount advertising contributes to funding the Internet.

Employment value

With the first of three methods used to triangulate the contribution of the advertising-supported Internet to the national economy, the study finds that the Internet employs 1.2 million people directly in jobs that build or maintain the infrastructure, facilitate its use, or conduct advertising and commerce on that infrastructure. Under the reasonable assumption that, like other business services, each Internet job supports an additional 1.54 jobs elsewhere in the economy, then 3.05 million, or roughly 2 percent, of employed Americans owe their employment to the advertising-supported Internet. Although there are regional concentrations of employment, these jobs are widely dispersed across the United States. Every one of the 435 U. S. Congressional districts owes some of its employment base to Internet workers.

If an employment-income approach is used to estimate the contribution of the Internet sector, the advertising-supported Internet sustains about \$300 billion, or approximately 2 percent. of the U.S. GDP.

Payments to Internet sector

In the second method, the study analyzes the Internet as an independent economic unit, analogous to an island "exporting" services to the rest of the economy and using the revenue so generated to maintain the island's "internal" economy. This assumption of the Internet as an independent island is imperfect because the whole economy is interdependent. However, drawing a line between an internal Internet economy and one that exports value to the rest of the U. S. economic system is a reasonable analytical approximation. Each element of this assumption is documented in the body of the report so that its reasonableness may be scrutinized.

The direct economic value of the services that the Internet provides to the rest of the U. S. economy is estimated at \$175 billion. This value is the revenue paid for the services "exported" beyond the borders of the internet's economy to the rest of the U. S. economy, net of what is "imported." It comprises \$20 billion of advertising services, \$85 billion of retail transactions (net of cost of goods) conducted on the Internet, and \$70 billion of direct payments to Internet service providers. In addition, the Internet generates an indirect economic value of activity that takes place elsewhere in the economy due to the Internet sector. If the same multiplier is used as was used for employment, 1.54, then the advertising-supported Internet creates value of \$444 billion.

The importance of advertising to funding the Internet has grown materially in the past seven years, while direct consumer payments for ISP services and retail margins have declined in relative importance. A study conducted in 2002 found that advertising contributed 7 percent of the \$78 billion paid for Internet services to the U.S. economy. In just 7 years, while the value

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of the Internet has doubled, advertising has increased fourfold and its contribution to the pool of funding for the Internet has grown to 11%. Payments to ISPs in these 7 years have been stable despite the shift by consumers and businesses to more expensive broadband services. Electronic commerce, although it has doubled in absolute terms, contributes relatively less to funding the Internet today than in 2002. Thus, advertising is the only Internet funding source that has shouldered more of the burden than seven years ago. It has substantially reduced what consumers have had to pay for access to the Internet and for e-commerce products and services. As online advertising technologies grow in sophistication, advertising is likely to continue to grow faster than other funding sources and to shoulder more of the costs of the Internet.

Time value

The third approach to assessing the value of the advertising-supported Internet is based on the time that people give to the Internet. At work and at leisure, about 190 million people in the United States spend, on average, 68 hours a month on the internet. Using a conservative valuation of this time, this approach values the Internet at \$680 billion.

Economic contribution by Internet segment

The following exhibit displays the economic activity of 14 segments of the Internet. The last two columns reflect the employment and value add numbers discussed above. Note that no total is shown for revenues, owing to double counting both among these segments of the Internet and between the segments and the rest of the economy

Sizes of 14 Internet Segments in 2007*

	2007 Internet Revenues (\$ bil.)	2007 U.S. Internet Employees	Estimated 2007 Value Add (\$ bil.)
1. Internet service providers (ISPs) and transport	73.31	181,233	18.1
2. Hardware providers	64.41	65,591	6.6
3. IT consulting and solutions companies	8.15	31,985	3.2
4. Software companies	15.72	27,192	2.7
5. Web hosting and content management companies	5.85	52,835	5.3
6. Search engines/portals	33.84	48,925	4.9
7. Content sites	6.0	59,401	5.9
8. Software as a Service (SaaS)	7.70	31,487	3.1
9. Ad agencies and support services	5.86	44,282	4.4
10; Ad networks	.60	5,000	.5
11. E-mail marketing and support**	1.02	10,164	1.0
12. Enterprise staffs and subcontractors responsible for Internet advertising, marketing and web design	15.00	100,000	10.0
13. E-commerce cos., including	202.78	456,664	45.7

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physical delivery			
14. B2B e-commerce	1,350.00	44,233	4.4
Total***		1,158,992	115.8

- * Sources of the numbers in the first two columns are given in Section 3, where each segment is discussed separately. The figures for the “Value Add” column are derived from the number of U.S. Internet employees, and a factor for depreciation where appropriate.
- ** The employees for Internet e-mail campaigns are excluded from #9, advertising, to be able to highlight the e-mail segment. Many Internet ad agencies are involved in email marketing, but their e-mail-oriented employees are listed in the e-mail segment.
- ***The total revenues in the first column, \$449.14 billion, are potentially misleading, as some of the revenues for some segments would also show up as a cost in some other segments. Also, there are “cost of goods” in these numbers, which would not permit comparisons to U.S. GDP. For making comparisons to the rest of the economy, only the last two columns should be used.

Social and economic benefits of the Internet

The Internet of today exists largely because firms pay its costs in exchange for the benefits of an advertising, marketing, and transaction medium, much as television has thrived because firms valued it as an advertising medium. But the Internet is more than a medium of commerce. It has produced large social consequences, very different in scope and scale from those of television. It is an infrastructure and a platform, and, consequently, its benefits are broad and open-ended. This report identifies benefits in three areas of social life: productivity, the environment, and empowerment.

Information access: Denial of access to information or costly impediments to its retrieval amount to a drag on economic and social productivity. The Internet provides nearly universal access to vast information resources. Video, audio and print formats are available. From health care information to comparative prices, to the performance of elected representatives, consumers and citizens have free access to valuable information. While the Internet has increased the stock of information, it has also improved the productivity of attentional resources because search technologies filter the noise from relevant information and bring people what they need to know when it is needed. The Internet has already contributed to increased productivity in many industries, and will likely continue to do so. Internet retailers have between three and four times the labor productivity of bricks and mortar retailers selling the same types of merchandise.

Employment and entrepreneurship: As previously noted, the Internet has created over 1.2 million new jobs in the U.S over the last 10 to- 15 years. Many pay higher salaries than the average U.S. wage. Most of the net new jobs created each year in the U.S. and in the Internet sector are at small companies. Some 20,000 small businesses operate on the Internet, 120,000 individuals are primarily employed as eBay sellers, and 500,000 individuals have part-time businesses on eBay. A recent *Wall Street Journal* report estimates that nearly half a million individuals may make their living as “bloggers,” or small publishers of online content. What were once small Internet companies a decade or two ago, in some cases have grown to be quite large, and in the process have created many new jobs for the economy. Significant examples are Amazon.com, Cisco Systems, Symantic, Google, and eBay, now with about 75,000 U.S.-based Internet employees among them.

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Recession-proofing: Internet companies took a tumble in the “Dot Com Bust” of 2000-2002, owing to drastic stock price drops from absurdly inflated levels, more so than from declines in Internet usage or e-commerce. The stronger Internet companies, such as Amazon and Cisco, kept growing their revenues at this time, despite major stock price drops. In the current recession, the Internet seems to be one of the “pillars of strength,” with usage continuing to rise and revenues of major companies are growing, or staying flat – at least to this date.

Fostering further innovation: The Internet has facilitated entrepreneurship that has created innovation nationally and globally. Flexible and powerful web browsers connect users directly to content. New retail forms have emerged, substantially displacing catalog marketing, and spawning a diverse range of consumer services. Social networking offerings have offered a way for people of a wide variety of affinities to share information and viewpoints. The pace of innovation shows no evidence of abating.

International trade opportunities: U.S. information technology companies, and Internet companies in particular, are very global in their sales orientation. Standards and styles for IT hardware and software, largely set in the U.S., became the international standards. U.S. information technology companies have simply followed their major clients in financial services and other industries around the world, outfitting them with computers, software and networks. Most of the larger Internet companies have about half their revenues coming from outside the U.S. True, these companies also outsource a lot of jobs, mostly in IT. But there are some industries like apparel, footwear and children’s toys that sell little overseas and outsource almost all manufacturing work.

Environment: A significant benefit of digital connectivity is the saving of natural resources and reduction in environmental pollution: Fast transmission of information in digital format and voice and video teleconferencing eliminate some of the need for human travel and shipment of documents and reduce paper consumption and disposal costs.

Inclusiveness: The Internet has made possible greater social and economic inclusion. Some of the jobs created by the Internet, particularly e-selling, publishing, and instant-messaging-based customer services, are not necessarily office-based, a boon to the home-bound or people who need or desire flexibility between their home and work lives.