Chapter 6

THE WEB ECONOMY

CHRISTMAS 1999 – NEW YORK CITY

AT THE NADIR of the old millennium, the Web was operating as the elixir of something new. The lead-up to Christmas 1999 in the United States seemed fundamentally different from past Christmasses because the **Internet** was heralded as something that could now make money change hands. The fears of previous years, where people resisted making purchases over the Internet because of trepidation over the security of using their credit card, was waning if not completely ennervated. Christmas, with its usual power to make it not only the season of giving but also the season where retailers made their greatest revenues, was the agent of transformation and the channel to accept the Web completely. Estimates for the Web-related sales for the Christmas season in the United States alone were in the US$ 4 billion range.

THE NEW AGORA

What changed? Why 1999? Part of the feel of change was related to the way Web retailers were comfortable with doing massive advertising campaigns on television and radio. Quite dramatically the presence of Ebay, Amazon.com and other **virtual** department stores rubbed shoulders with the national advertising campaigns of the largest department store chains. Indeed, even the chains such as Toys'R'Us made concerted efforts to have a Web presence and compete directly with the e-retailers. Equally significant was the importance of the warehouses and inventory that were now part of these electronic retailers' **networks** which meant that often Web retailers were the only source for the most sought after toys and games. In five years,

the Web had moved from being a location for the distribution of primarily technology and software to catering for the selling of every possible product manufactured and every available service. As much as the Internet has been identified as a new public sphere, it must be emphasized that new public space resembles the agora or market place as the free exchange of ideas and development of free speech are embedded into this superseding code of buying and selling.

The agora is noisy, crowded and its flow of speech and **information** resembles the stream of consciousness of the best Joycian prose. At the core of the agora is barter, where goods are exchanged for other goods; but an ineluctable part of that process is the conversational haggle. The potential customer may even look disinterested in the product in order to reduce the price ultimately to be paid. The vendor might engage in techniques that make the potential customer feel that their relationship is special and the price offered is part of that special bond. The give and take may seem endless and the style of communication in parts of the world where an agora and marketplace still thrive is an artform which moves seamlessly between delicacy and braggadacio.

The other reality of the agora is that it is never simply a place of exchange. In an anthropological sense, all sorts of other negotiations are going on. The agora is where the classes cross paths and the display of class may be part of the scene. If you want to promulgate an idea the agora is your first stop. So, not only are goods and services available but there is an attempt to create public debate in the agora. The agora is the place for the flow of commerce, the flow of culture and as all these other dimensions intersect, the flow of politics.

The Web is producing a similar virtual agora. It is a cacophony of presentation and representation that deliberately violates divisions that we have set up through our modern institutions to operate distinctively. For instance, democratic political systems generally eliminate any commercial discourse to cloud the process. Thus, you do not see banners in legislatures advertising Nokia. Likewise most countries place controls on political advertising in polling stations where people vote. The concept is that politics and citizenry are sacrosanct identities of the individual in contemporary society and that the process of consultation and representation is above the commercial and the economic. Although the reality of corporate lobbying of legislators makes this more of a simulation or an ideal of the democratic process, it nevertheless underlines the division between one part of our society and another.

On a similar dimension, there are all sorts of policing strategies which separate the public world from the private world. In contemporary media that line is routinely crossed when we are invited to read about the most intimate details of stars, celebrities or the infamous; but we rarely expect our own private worlds to move into public debate. The Web and the Internet

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have made those delineations less clear as private correspondences such as **e-mail** are often not that different from what we reveal in the more public realms of chatrooms. The online world, whose interface is through the *personal* computer permits this bending of the private and the public: if we think of **Webcams** and their depiction of the everyday lives of people we can see the intimate becomes the entire content of certain Web sites. Although television is a technology that is part of the private home world, it has not been designed as a two-way **interactive** form: the Web in contrast occupies similar private domestic spaces in its use *and* provides channels for the exchange of private revelation that television just cannot fulfil.

The Web's agora is both public and private as much as it is a site for vociferous political debate and pure commercial drives. What we want to explore in this chapter is the nature of this political/economic universe and how that has produced this borderless **Web culture** that transcends its public status by routinely revealing the intimacies of everyday life of its **users**. It is a **new agora** that may resemble past market places, but nevertheless it has been structured from its history and early utopian ideals into something unique.

THE GIFT AND THE COMMODITY

Typical political economic analysis of the media begins by detailing who owns what and finishes with identifying the implications of such ownership on the content of our media. This form of analysis generally moves towards the need for safeguards and regulatory frameworks to reign in the excesses of ownership. It is an important form of analysis and one that we will pursue once we establish the kinds of politics that have been part of the Web's emergence and how that has had some effect on the movement of information on the Web. The central distinction that has to be developed to understand the Web's economy is between the gift and the commodity.

The gift has been a central component of the Web's history and has led to particular economic developments on the Web. From its early usage and close connection to university research, the Internet has often been about the free exchange of ideas and projects. Indeed, part of the history of computer culture is the **shareware movement** where computer programs were passed between users for free and a relatively benign request for donations. This process of passing software for free has accelerated through the Internet and the Web (Wayner 2000). There are sites for **downloading** free and accessible images, other sites for 'cheats' about computer games, and still other sites that have made the entire user base of the Web a potential library for the collection of music from the Web. As we have described in Chapter 2, the Web is about the circulation of **digital** information and it facilitates a borderless accessibility to appropriate that information – that is, download – and reform its content for one's particular uses. This ease in movement and

exchange of information actually has been one of the principal reasons for the retardation of the Web economy and we will revisit this 'problem' later in the chapter. What is central to realize is that the Web has been connected to traditions that are somewhat outside of the economic structure of value. Let us concentrate on some of those features.

The Web has features that resemble a library

Although not all libraries are open to the public, the concept of the library is that it is accessible and, once you are a member of the community you have *borrowing* rights. The contents of a library may have been acquired from commercial publishers, but once they are in the library those materials transform into quasi-public domain. Users can be quite direct in their searches for information or they can browse. The contents of the material are cross-linked within their pages through the use of footnotes and bibliographies which provide the connection of one book or source to another within the library. Further cross-referencing has been developed in the original card catalogues to make the library's resources of greater utility and easier to locate; now search catalogues of the library system extend these cross-linkages.

All of these features of the library have served as a model of the Web itself. Once information is placed on the Web it also becomes available and accessible as it enters into the quasi-public domain of **cyberspace**. The digital quality of any Web-based material makes it available for borrowing; the difference between the Web and the library system is that the material from the Web can be copied exactly as it was originally produced whereas library photocopying can only produce a close facsimile. The cross-linkage system of the Web, which hearkens back to Vannevar Bush's model of the memex (1945), is in many ways a **hypertext** version of a card catalogue and a series of endnotes and footnotes. Indeed, because of the close affinity with the Web and its development of searching techniques, libraries through their information-science trained staff have been one of the major institutions that have embraced the Web. The Web offers a massive extension of the library system and, like libraries, does not necessarily hierarchize the value of the information. That construction of the value of information is determined by the Web **browser** as much as by the library user. The Web proliferates the expanse of the modern library. Recent estimates of the Web size vary a great deal. At the time of writing, the conservative estimates put the Web's size at 100 billion documents. Brightplanet.com, a firm with an interest in providing techniques for searching the Web, claims that there are in fact over 550 billion documents that are in the uncatalogued by **search engines** 'deep-Web' (Bergman 2000). Whichever of these two figures is chosen, the reality is that the Web represents a resource that is larger than any other library or combination of libraries on the planet. And most of that

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The Web has developed clear connections to the government, public service and education

We are well aware of the Web's Internet origins with the American Defence Department ARPA which has always wedded the Internet to government interests. But the proliferation of the Web since the early 1990s has led to quite different parts of the government and their interest in the Internet. Al Gore, when he was American Vice-president has claimed that he coined the term the **information superhighway** as he set up the National Information Infrastructure (NII). These efforts by national governments like the United States have not only been about fostering a commercial Web, but more directly about connecting the Web to education and educational needs. Thus a series of programs of getting schools connected to the Web has been a policy initiative of the most wealthy nations from the United States and Australia to Europe and Singapore. The Web has come to represent the future for many countries and **computer mediated communication (CMC)** is now seen as an essential form of learning for children. Governments are reacting to a new **digital divide** that is restructuring wealth; as societies they are trying to ensure that information technology is prominent in the educational curriculum and the Web represents the most accessible resource and tool for computer use. All of these efforts are government initiatives to ensure their particular societies are not left behind these massive transformations with economies that are not information oriented and workforces that do not have the skills to take control and develop these new methods for the construction and movement of information.

It is also important to signal that the Web has elements that link it to how other utilities have operated in countries. Telephone services have generally been run by PTT (Post, Telephone and Telegraph) in the past, which are and were government corporations or departments that ensured there was an information infrastructure in each country of the postal service and eventually the telephone service. In some countries such as Canada, this service was private but highly regulated to ensure universal access to the telephone and postal systems. Currently, many of these telephone utilities have been privatized to allow them to compete more effectively in a deregulated international telephone market. Nevertheless, the Web's emergence has placed it as a service that, like telephones, should be universally accessible and governments continue to foster public access points for Internet usage in libraries, schools and public buildings.

The Web, in its affinity to the production of knowledge, possesses an ethic as a cultural gift

Every culture has divisions between what is an object of trade and what transcends the normal economic and commercial system and becomes a gift. Cultural anthropologists have studied specific societies that have produced remarkable variations in their systems of exchange. For instance, the Pacific Northwest Amerindians, Kwakiutl, have been studied particularly for their potlatch. At certain times, there are potlatches where a given chief's prestige is determined by how much he can give away during a festival to another village. Quite often the desire to give under these conditions has ruined a village (Leiss *et al.* 1990). In contrast, Western consumer society seems to produce a continuous spectrum of exchange where it appears that any product can be reduced to a monetary value. Nonetheless in most cultures, some things are transformed from commodities into gifts which are freely given and received.

In general, the economic rules of exchange are most likely broken where the emotional bonds and familial investments are strongest. Gifts are thus most regularly exchanged among family and friends. Gifts seem to be also connected to donations to religious institutions and charities; again the motivation behind the gift is a transcendence of the everyday into something spiritual and therefore beyond self-interest. However, some of the most deeply embedded gift-givings in a culture are those that are rarely seen. Knowledge is passed on from generation to generation without any clear economic exchange. Children learn language and skills from their parents. Even the contemporary universal access of education is at least connected to this normal movement of information. Information and its conversion into knowledge through acquisition and then application is strongly associated with the gift. Although controls of information through the Church, through controls on literacy, through the commercialization of education and where **data** is stored, and through the selling of books and newspapers make it appear that knowledge is a commodity it is always an uncertain commodity and unstable in terms of ownership. Intellectual property is a feature of an information-based society; nevertheless knowledge and information have deep-seeded qualities of the gift that have to be overcome in their conversion into products and property (Frow 1996: 89–108). As knowledge becomes more accessible and more widely dispersed it loses its exclusivity and is *common* knowledge. As common knowledge, it can be freely given precisely because it is generally held and widely distributed and stored in the consciousness of so many people.

The diversity of material on the Web makes it harder to discern that the Web is centrally about the production and distribution of knowledge. Because of that central activity, the Web treads the line between the gift and the commodity. The ethic of the exchange of information for the betterment of a

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culture is strongly positioned in the emergence of the Web. The ease with which one can access information on the Web makes its structure of providing information and thereby knowledge resemble the gift. That ethic is part of what fuels the proliferation of Web sites where more and more pieces of knowledge are shared globally. According to one extraordinary report as many as 7.3 million Web sites are added daily to the literally millions of terabytes of information available (Cyveilance 2000). There is genuine sharing of knowledge on the Web that has to be seen as part of the expansion of common knowledge and comes close to Levy's (1997) thesis about improving a kind of collective consciousness for the betterment of humankind.

The gift quality of the Web has frustrated the emergence of the Web economy, but not enough to arrest the now massive commercial nature of the Web. The Web as gift has shifted how value is transformed to accommodate the concept of the Web as free, accessible and a source of common knowledge. The Web continues to be an unstable and volatile economy as companies learn to negotiate this ethos of the gift that still inhabits the Web's core.

MAKING THE WEB MAKE CENTS: THE INTRICACIES OF THE WEB ECONOMY

For years, companies have worked to crack the code of the Internet as a commercial entity. Like the holy grail, some have sought the **killer application** – that is, some content or software that every Internet user would pay to have loaded on their personal computers. This search was more or less modelled on the rise of the personal computer itself: operating systems, word processing, accounting and spreadsheet programs, design and presentation programs and assorted games became the essential software that allowed companies such as Microsoft to grow into very large and powerful corporations. With the Web, the search is far from complete and has migrated over time. A good way to get a sense of these migrations of what is the central commercial feature of the Web is to look at the corporations that have surfaced with the rise of the **World Wide Web** and their efforts at growth on the **NASDAQ** stock exchange.

RISK CAPITAL: PICKING A FUTURE

NASDAQ is known as the stock exchange for new technologies and the most likely place for the launch of new Internet companies into the heady world of venture capital. Physically based in New York, it has become the virtual hub of the new electronic economy partly because it is entirely an electronic stock market that was launched in 1971 as the needs for financing new electronic ventures began emerging. It is a volatile exchange and is generally perceived as the most active American stockmarket in terms of

sheer volume – over 270 billion shares annually (1999) (NASDAQ 2001). There are 4,800 companies listed on the exchange for a total market value in 2000 of US$5.38 trillion (NASDAQ 2001). Not all of these companies are Internet companies – they may be manufacturers, software or games companies. Of those 4,800 companies, 432 are grouped as Internet-related companies. Most of the remarkable stockmarket moments since the early 1990s have been related to the **initial public offerings** (**IPO**) of these Internet-related companies. Millions of shares are offered to the public to buy a stake in these companies and their capacity to generate profits into the future. However, the stock market generally and, to a much higher degree, the NASDAQ do not work in the world of profits and losses. Stockmarkets are estimations of the current value and future value of any company listed. Investing in Internet companies has accentuated both the speculative nature of stockmarkets and the virtual quality of any company's value that is determined in terms of stocks. When a company is listed on a particular exchange they pay a fee and to maintain their status an annual fee and this is how the actual exchange makes its money. With both the number of companies that now look to be listed on NASDAQ as well as the names of the companies that have made a successful start there, NASDAQ as a stock exchange has not only cornered the American market for new technologies and the Internet, but has been the stockmarket of choice for many non-US-based corporations. It has become the place for capitalization, where a good idea attempts to expand outwards to market dominance.

Some major Web corporations, IPOs on NASDAQ, the number of shares offered, at what value, and their value in 2000 are presented in Table 6.1.

Table 6.1 Web corporation IPOs

Company name	*IPO date*	*Offered shares (in millions)*	*Offer price*	*Close 7/21/00*
AOL	3/19/92	2.000	11.50	57.500
Amazon.com	5/15/97	3.000	18.00	41.125
Ask Jeeves	7/01/99	3.000	14.00	17.000
Cnet	7/01/96	2.000	16.00	30.812
Ebay Inc	9/24/98	3.490	18.00	58.750
Netscape	5/9/95		28.00	
Inktomi Corp	6/10/98	2.254	18.00	129.750
Lycos Inc	4/2/96	3.000	16.00	58.812
MP3com Inc	2/5/99	12.300	28.00	12.125
RealNetwork	11/21/97	3.000	12.50	49.875
Saloncom	6/22/99	2.500	10.50	1.375
Yahoo Inc	4/12/96	2.600	13.00	138.312

Source: Wall Street Research Net – accessed 23 July 2000

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There have been massive successes through these Initial Public Offerings. For instance, both Yahoo! and Netscape's debuts on the stockmarket established records for capitalization and transformation in value. From Table 6.1, one can see that Yahoo! has increased in value over 100 times from 1996. Amazon.com similarly has had an impressive stock release, although was severely affected by the downturn in Internet stock in 2000. It should also be clear that there have been less successful capitalization processes. Salon.com, which has been an interesting site for original articles on the Web by recognized writers a year after its IPO was trading at half its original value.

These stock price movements may be intrinsically interesting for those of us trying to determine the next wave of market frenzy; but our purposes here are to indicate how the Web has moved to centre stage for contemporary capitalism. As is clear, an entire stock exchange has emerged that rivals the traditional giants of New York (NYSE), London (FTSE), Tokyo (NIKKEI), Hong Kong (Hang Seng), Paris (La Bourse) and Germany (Deutsch Borse) in terms of activity and general interest. Its concentration on technology and Internet stocks means it has a clear definition and provides a clarion of where this **new economy** is headed. Many exchanges have a technology list that provides similar avenues for investment; but none is as tightly connected to the informational economy as NASDAQ.

However, it is equally important to realize that very few of these Internet companies have generated profits. They may have generated enormous revenues; but they are still operating at a loss. For instance, the giant Internet product distribution company that launched itself through bookselling, Amazon.com, turned a profit for the first time in the last quarter of 2001. Many individuals have made massive fortunes from having investments in these companies; but it must be said that capital's interest in the Web is still based on potential and the future. More often than not, Web-related companies have been overvalued as the hype around the 'affirmative future' takes hold over the collective investor consciousness. These are moments of what is called 'market correction': in April 2000 the Internet-related stockmarket went through a massive 'correction' where the **Internet investment bubble** burst and a re-evaluation of the enthusiasm for particular companies and the general stock values of all Internet companies dropped.

In what was called the dotcom crash of Black Friday, 21 April 2000 NASDAQ lost 25 per cent of its value. In the aftermath, thousands of technology based companies went into bankruptcy and a subsequent wave of mergers and takeovers took place. Nevertheless, there remains a foundational understanding that the Internet and the Web will expand their commercial presence in the coming years as greater aspects of retailing, services, information resourcing and entertainment become mediated through the Web.

THE KILLER APPLICATION – WEB PORNOGRAPHY

Although many forms of electronic commerce suffered downward spirals since April 2000, pornography on the Web has grown. Indeed, since the expansion of the Web from the early 1990s, pornography has consistently been the leader in transforming the Web into a marketplace where users suddenly are comfortable with revealing their credit card details online. Some of the statistics are revealing of this development. One study indicated that in 1998 e-commerce was a 9 billion consumer industry with 11 per cent of that generated by the porn industry. One year later, the e-commerce had doubled to 18 billion and the porn industry still generated 8 per cent of this larger pie (Rosoff 1999). Dennis MacAlpine, an investment analyst who specializes in the entertainment industry concurred with many others that the size of the online industry and the entire pornography industry was difficult to discern but he ventured the following guestimation for the United States in 2002: 'The Internet is probably, rough guess, two, three, four times larger [than the 1 billion dollar **pay per view** television industry for pornography]' (Frontline 2002). With the worldwide pornography industry estimated at 56 billion (Cronin and Davenport 2001), and 200,000 commercial pornography sites (Frontline 2002) the actual international economic dimension of online pornography is enormous. One study in 2000 revealed that from a survey of 1,031 American adults, 20 per cent or the equivalent of 40 million had visited a 'sexually-oriented' Web site (Family Research Council 2000). Nielsen's surveys also reveal a high frequency of porn-related sites: in January 2002, there were 27.5 million visitors to porn sites in the United States with 72 per cent male and 28 per cent female users (Nielsen Netratings 2000). Moreover, although the most popular search items terms have varied somewhat, it is a truism that the word 'sex' has been at or near the top of searches for many years and according to Alexa Research, 1 in every 300 searches was for 'sex' and other terms such as 'porn', 'nude', 'xxx', 'erotic' were all among the highest twenty (Business Wire 2001).

Apart from capturing new subscribers through search engines the shape of this economy is revealing in terms of how people are passed from one site to another. Danni Ashe, CEO and performer of the 8 million dollar a year Web site Danni's Hard Drive, explains the idea of driving 'traffic' from one porn site to another: '... Essentially what happens is an adult Web site will buy a thousand visitors, for instance. Of those thousand, maybe two or three will subscribe, so the 998 people who don't subscribe, they'll say, "Hey, I'm going to sell 'em to the next guy." The next guy will buy the 998 visitors, and then maybe one or two will subscribe. And so people j know, the initial philosophy doesn't like my Web site, but h so let's give them more choices people are getting moved aro (Frontline 2002).

Although the pornography technology workers after other industry that treads the line o generate customers it must rev of grabbing subscribers. This difficult not to stumble upon s Web. Pornography sites adver mail-outs to unsuspecting free sold. The industry is under cor tors and even in self-regulati **Providers**. Nonetheless, porno cation of the first decade of th

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will subscribe. And so people just keep getting moved around. And, you know, the initial philosophy was, "Hey, you know, *maybe this guy* doesn't like my Web site, but he might like this other person's Web site, so let's give them more choices." But it's gotten to the point now where *people are getting moved around and bought* and sold too much . . .' (*Frontline* 2002).

Although the pornography business has been a saviour for many technology workers after other dotcom businesses collapsed, it also is an industry that treads the line of legality in many countries. In order to generate customers it must reveal some of its wares for free in the hope of grabbing subscribers. This has resulted in the Web reality that it is difficult not to stumble upon sexually explicit material when surfing the Web. Pornography sites advertise heavily and regularly send massive e-mail-outs to unsuspecting free e-mail users whose addresses have been sold. The industry is under constant surveillance by government regulators and even in self-regulating terms by the major **Internet Service Providers**. Nonetheless, pornography has been the killer software application of the first decade of the Web.

SIZE DOES MATTER

Peeling the waves of hype around the Internet is difficult partly because the assets of the Web economy are not very tangible: the product itself is often virtual; the activity is only in the realm of electronic transactions and the actual bricks and mortar of property may be miniscule. Even the various efforts to chart the economic activity may be generated by companies that have vested interests in maintaining the illusory but seductively exhilarating exponential growth statistics of the Web. Getting a sense of the amount of economic activity is an important form of analysis – even if it needs updating regularly so that the facts and figures that are contained in this book will need to be both challenged and amended each time it is read.

Jobs

One way of gauging the impact of the Web is to determine the amount of jobs that are related to its activity. In an anecdotal way, one can sense that there has been a shift in the job responsibilities in almost every kind of industry. Whatever the commercial activity, e-mail correspondence and newletters may be now a routine way of servicing the needs of customers. Someone is clearly responsible for presenting and updating commercial Web sites. And still others are responsible for retraining and educating workers in the skills of Web design over and above the growing number of software

coders who are producing the tools that are employed to make Web pages. Also, as the software improves in its accessibility, a greater number of people are actually available for a number of other Web-related tasks because the skill-level necessary declines. The results of these transformations and integrations of Web-related software means that the employment structure of the Web economy is in continual flux.

Perhaps the greatest amount of statistical evidence about the Web and employment has been generated by the University of Texas at Austin's Center for Research in Electronic Commerce. Their information refers specifically to American labour, but they indicate that nearly 2.5 million workers are supported by the Internet economy in 1999. In relative terms, this makes the Internet economy larger than the American communications industry or insurance industry and twice as large as the airline industry or the property industry. The rate of growth in Internet-related work in one year according to the same report is just over 30 per cent. (Internet Indicators 2000). The four divisions/layers of work and activity outlined are equally interesting and need further exploration.

1 Internet Infrastructure layer: Internet service providers and those provisioning equipment and service for providing access to the Internet represent almost a third of the Web economy labour force. Large telecommunications firms such as AT&T in the United States, Telstra in Australia, major service providers such as AOL.com and Internet security firms are included in this layer of activity.
2 Internet Applications Infrastructure layer: this work is involved with producing software and services that 'facilitate(s) Web transactions and transaction intermediaries'. The applications infrastructure layer also includes designers of Web sites and portals, consultants and those who maintain the Web sites for continuous use for **electronic commerce** transactions. Twenty-six per cent of Web employment is primarily connected to these applications. Firms such as Microsoft, Oracle, Adobe – who produce software for designing Webspaces – would be the higher profile companies that employ in this layer.
3 Internet Intermediary layer: This layer of work is not so much involved in the moving of goods and services and therefore cannot be labelled electronic commerce. Rather, these are workers and activities that help *mediate* the movement of goods and services. This layer is composed of the content providers, the advertising agencies who produce the **banner advertisements**, the search engines who provide access to content and advertisements. Also included here are the online brokerages, the online travel agent work, internet advertising brokers and the many portals that open specific content and knowledge about specific products. In terms of workers, these 'intermediary' workers are about 13 per cent of the entire Web economy.
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4 Internet Commerce layer: workers in this layer of the Web economy are involved in companies that are actually selling products and services online directly. The quintessential firm would be Amazon.com in its selling of all sorts of entertainment related products. Direct sales by airlines are included here as various companies circumvent the agents that have traditionally sold their products or services. Thirty per cent of Web employees work in this layer. Although many may be employees of traditional firms, their jobs are related to increasing and servicing transactions online (Internet Indicators 2000).

The new economy work in Europe

Similarly, in Europe there has been a transformation in work that is related to the new economy. The results of a recent European Union (EU) study (2001) on the exploitation and development of the job potential in the cultural sector in the age of digitalization identifies these current and future shifts. Continued employment growth in the creative occupations of the cultural sector is to be expected in the future since the demand for cultural products and services is strongly increasing, both from private households and from companies. Employment growth in the area of distribution will also increase, but not at the same rate as in the development of cultural 'products'. 'Content producers' seem to be in greater demand than marketing and sales persons.

Generally speaking, the rapidly increasing digitalization of cultural products will result in 'traditional' cultural media, such as books and printed matter, losing significance, while new media, such as Internet Web sites, will come to the fore, also in terms of employment. The 'digital culture' is the result of an interaction between 'traditional' culture (content), the **TIMES** sector (technology) and services/distribution. The increasingly used term TIMES sector (Telecommunication, Internet, Multimedia, E-commerce, Software and Security) is used to cover the whole audio-visual sector, i.e. the entire **multimedia** sector, including culture industry areas such as television, publishing and the music industry. The TIMES sector in the EU is characterized by very small companies. Only 13.2 per cent of the companies have more than 50 employees. There is a very high share of freelancers, with 1.3 freelancers for every regular employee. In contrast, at 30 per cent, the share of women is very low. The percentage of women employed in creative occupations is even lower, and when it comes to company start-ups, only 20 per cent of new TIMES companies are set up by women. Digital culture demonstrates enormous employment dynamics, particularly in the areas of multimedia and software. These two sub-sectors are those with the greatest demand for content and creativity and therefore represent the best employment opportunities for creative workers. There are currently approximately 1.5 million companies in the EU active in the areas of multimedia and

software, representing a total of 12.4 million workers. Assuming a declining annual growth rate over the next 10 years from 10 per cent in 2001 to just 3 per cent in 2011, we can estimate 22 million jobs in the year 2011. Thus, approximately 9.6 million new jobs will be created in multimedia and software in the next decade.

However, the TIMES sector is currently already experiencing great bottlenecks of personnel on an EU-wide level. This shortage of qualified personnel represents the number one hindrance to growth in the TIMES sector. In digital culture, completely new job profiles and qualification content are presently emerging which are extremely interesting for cultural workers. The rule of thumb which can be applied to this sector is that the entire technical segment, including technology, infrastructure, hardware and printing, will undergo a period of relative stagnation or even decline (with regard to both jobs and contribution to the value adding process), whereas all content-oriented work, that is, creative areas of employment, will continue to show high growth rates (Web design, advertising, publishing, media, education, entertainment, etc.). Digital culture has acted as an employment motor in the past, and will continue to do so in the future, primarily based upon the strong demand within the TIMES sector for creativity and content.

Revenues

Another way of determining the relative importance of the Web's economy is in terms of revenues and incomes. Here the figures vary wildly and widely which once again underlines the enthusiasm and hyperbole that has surrounded the emergence of this economy. One Internet research company claims that electronic commerce generated 132 billion dollars worldwide in 2000 (ActivMedia Research 2000). This American report indicated that only 1.7 per cent of retail sales are done through e-commerce. Yet another source with a running tally of 'global Internet commerce revenue since 1998' puts the figure at 161.4 billion dollars by the middle of 2000 (NUA Internet Surveys Europe 2000). In a European survey, an estimate that more than US$50 billion of purchases would have been made during the year 2000, while approximately 22 billion was spent in 1999 online (NUA Internet Surveys 2000).

Interestingly the Scandinavians were clearly the largest consumers in the 12 EU countries surveyed. Whatever the statistic on Web-related revenues of this new online economy, the basic point is that it has been growing and continues to expand rapidly. Although there have been moments of decline, these are generally where there is a rationalization of a particular sector of the Web economy down to fewer companies and fewer players. What attracts so many investors and business people to the Web economy is that it appears to be free from the constraints that operate in other industries.

This can be translated to the sensation of capitalist frontier for the Internet. It is important to realize that floating with electronic commerce is the fear and anxiety of illegitimate, frequently illegal and phantom company activities. Indeed, the Web as capitalist frontier has been an inhibiting factor in Web businesses expanding as users through fear of the cross between crime and capital are held back from traversing that delicate psychological threshold of releasing their credit numbers online.

The divides that are developing in this Web economy are related to two types of commercial activities. On one level, there is the business-to-business transactions (**B2B Internet**) which is dependent on even higher levels of access security for it to operate smoothly. This level has been expanding rapidly as the supply of equipment and parts is serviced by the Web and the Internet from one company to another. The second level, business to consumer (**B2C**) transactions, is the one that has exploded from 1999 to the point that over 200 million online consumer transactions occurred in Europe that year. (NUA Internet Surveys 2000). Both forms of commerce are leading to major transformations in the way that business operates. The size of the Web economy may be less important than the perception of the Web's significance as a channel for business activity. This perception is fuelling a rapid proliferation of Web presences by small businesses. A survey report by Prodigy Communications indicates that 37 per cent of American small businesses (1–90 employees) now have a Web site and of those surveyed 90 per cent believe that the Internet would benefit their businesses in one of three ways: to promote their products or services, to actually sell online and/or to improve their customer service (Prodigy 2000). In a similar vein, NUA estimated that 56 per cent of American companies would sell their products online in 2000 (NUA Internet 2000).

As the revenues and the believed potential revenues from the online economy go up, the impact of the Web on the overall economy works in a multiplier-effect way. If actual producers and providers of services begin to sell their wares directly online, there is a breakdown of the divisions of retailing and distribution that have organized consumer production and consumption for the last century. Although department store chains can begin to produce a Web presence that replicates their presence in the cityscapes of the world, there is no reason why the online economy would not work towards direct sales from manufacturers. At the present time, these patterns of business–consumer structures are not clearly in place on the Web. As a result, the Web represents a possible location for a transformation of our consumer society and a moment where new 'department' store equivalents such as Amazon.com emerge from the wired world to surpass their twentieth-century giants such as Walmart. Moreover, the process of Web retailing works without national borders which also allows for rapid expansion of particular electronic retailers in transnational ways

that would take years to develop in traditional distribution and retail structures.

THE IMPORTANCE OF COUNTING ON THE WEB: THE MAKING OF THE 'AUDIENCE' COMMODITY

There is no question that electronic commerce makes us think of the Web as an entity that goes well beyond a media form. The Web produces an economy that intersects with all industries; television in contrast tends to intersect with many parts of the industrial culture through advertising and its direct sales through home shopping channels provide a stunted relationship to retailing. Yet to comprehend the operation of the Web's economy demands a general understanding of how commercial media make their income because at least 20 per cent of the Web economy is similarly constructed.

Whether one considers television radio or magazines the economic engine of these industries is related to constructing audiences. Audiences are the product – the commodity – that is manufactured by media industries that rely on advertising revenue. Television stations and networks for instance sell their audiences to advertisers who buy the audience's time. The placement of a commercial within a programme relies on the programme to generate an audience. The serial form of entertainment that we are used to in television is at least partly related to producing consistency in audiences that advertisers of certain products can rely upon to return to each week or each day.

With the production of this peculiar product – the **audience-commodity** – an even more peculiar media economy develops. Instead of the audience paying for its entertainment as they might be asked to do if watching a film at a cineplex, the television audience is given the programs for 'free'. But as Dallas Smythe (1981) and others have emphasized this free lunch structure of commercial television for the audience actually is dependent on a clear economy of watching. The audience's presence and viewing of the commercials generates the economic value in the system. Smythe has called this audience-labour, that we as audience members are actually working while we watch and are an essential component of the contemporary economy and its structure of value. This form of adding value as an audience-commodity is the reason why newspapers are relatively cheap to purchase; the advertising revenue covers as much as 80 per cent of the revenues of newspapers and magazines. In its most extreme form, television advertising rates for the annual football Superbowl are the most expensive on American network television.

To construct this value, there has to be some system in place that enumerates the size of the audience. In the development of each media

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industry, techniques have been developed to calibrate and then classify the audience. For instance, television has ratings that are now determined by a select number of households which have 'peoplemeters' that monitors each household's viewing practices. Magazines have a service that not only determines subscribers but also the larger readership of any particular issue. The music industry at one time determined its ratings or charts in terms of surveys of record store managers; it now gets virtually instantaneous ratings through the electronic information generated from the barcode on the sale of each CD. As Ang (1991) has conceptualized these various forms of counting audiences and then classifying them into demographic and psychographic categories has generated a 'mythic' audience that is used in each industry to organize their advertising rates.

A parallel history of counting has emerged with the Web and much of that counting is trying to determine the value of any particular site. Certain types of counting economies have developed on the Web to organize this value. The most readily generated of these economies simply is counting the number of **hits** that any Web site achieves. On the basis of these hits and reloads the number of visitors are determined. Because each hit leaves a residue or **cookie** of what **server** and user has connected to any site, there is a large industry that has developed that tries to organize and sell this information. Interestingly, the largest and most successful audience research company Nielsen's has become one of the major players in this world of counting. Their system of measurement is sold to particular clients who are given greater demographic and projective details about the movements of visitors on particular Web sites. Other smaller Web counters are also being used throughout the Web and are free to download their meter reading systems and have basic information of where in the world your particular site is successful at attracting visitors.

This first type of counting economy is designed to convert the Web into a media form modelled on the broadcasting free lunch system. Paid subscription systems on the Web, where the user pays to visit a particular site have only been consistently successful with pornographic locations. To a lesser degree business to business subscriptions of information have been moderately successful at achieving paying members and some business publications such as the *Wall Street Journal* have also had relative success by marketing the exclusivity, ease, and reliability of their business information. The overwhelming pattern on the Web is free access by all users to sites and the generation of money through the 'selling' of the aggregate of users to others who would like similar levels of visitors to either their sites or to know of their activities. The description here sounds more complicated than it really is. What has developed is an elaborate system of advertising on the Web. Companies pay for the regularity of hits on particular sites by putting banner advertisements on the sites. The host site to sustain this revenue source from advertisers must maintain a regular flow of visitors so that the

rates it can charge to advertisers are consistent or improving. The function of the counting companies such as Nielsen's is to authenticate the basic advertising transaction: they guarantee to both the site and the advertiser that the 'audience' for that site is in fact a certain size. Counting companies are essential for brokering the selling of advertising on the Web. They help the industry develop what are called **click-through rates** which calibrate the advertising rate for a site by the number of times the advertiser's banner is clicked upon by users.

The kinds of statistics generated in this counting economy reveal a great deal about the uses made of the Web and how that is being filtered into a system of commercial value where an audience-commodity can be determined. On the first order, it is essential to establish the 'universe' of the Web. So companies such as Mediametrix or Nielsen's netsizer attempt to establish the definitive number of users of the Web. The global total of active users at the end of 2001 was 254 million worldwide (Nielsen Netratings.com 2000). Since advertising is divided into regional and national markets there are further statistics about the size of the universe within particular countries. According to the same counting company, Table 6.2 reveals the statistics of users for some critically significant Web-nations:

Table 6.2 Internet usage

Country	*Number of active users per month (in millions)*	*Hours of use per month*	*Number of sessions per month*	*Number of unique sites visited per month*
Global	254	9:20	17	43
United States	104.8	11:27	21	47
Canada	10.4	9:40	21	23
Japan	21.6	10:18	19	55
Australia	6.1	7:58	13	38
Sweden	3.6	6.55	14	36
United Kingdom	17	6:45	14	42
Singapore	0.83	8:46	16	43
France	7.2	7:25	16	48
Germany	17.9	8:15	17	58
Finland	1.3	5:12	12	32
The Netherlands	5.5	7:15	15	52
Ireland	0.64	4:05	9	30

Source: Nielsen/Netratings – Data from December 2001 and January 2002
Note: Information is presented from home Internet usage. Global samples size from twenty-nine countries: 164,648

THE POP-UP EC

As one moves from Web nomenon begins to devel Once the user crosses th some product or service begins to emerge. Porn s **WebRing**. Because of th it is difficult for the user sites. Travel services pop ilarly linked to hotel serv these pop-up rings. Met more Las Vegas-like as gaudy door prizes and ga Web is forever foregrou century hucksterism and tronic commerce.

The universe establishes th same way as statistics about tion of every household in advertising is working with persed universe and on thi the statistics are more nuan when the statistic divides t user statistic. For instance, there was an active Internet and a further 41 million a significant statistics: the ti average length of time spe average length of use varies marily determined by local relative average wealth of e 6.2.

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THE POP-UP ECONOMY

As one moves from Web sites to commercial Web sites, a curious phenomenon begins to develop: Web sites pop up on top of the original site. Once the user crosses the divide from user to consumer by clicking on some product or service, the chainlink structure of the Web economy begins to emerge. Porn sites advertise on other porn sites establishing a **WebRing**. Because of the automatic nature of the pop-up window series it is difficult for the user to escape from the onslaught of connected porn sites. Travel services pop up on airline booking sites which may be similarly linked to hotel services. Deals, prizes and offers of money frequent these pop-up rings. Metaphorically, the commercial Web is becoming more Las Vegas-like as it works to target the potential consumer with gaudy door prizes and games of chance. The promotional promise of the Web is forever foregrounded for the user and the sense of nineteenth-century hucksterism and outright fraud haunt the development of electronic commerce.

The universe establishes the potential reach of any particular Web site, the same way as statistics about television are determined by their virtual saturation of every household in many countries. On a basic comparison, Web advertising is working with a much smaller universe and a much more dispersed universe and on this basis is less attractive to advertisers. However, the statistics are more nuanced. The universe becomes much more focused when the statistic divides the users into the 'active' Internet and the wider user statistic. For instance, Nielsen assesses that in a week in January 2002 there was an active Internet user base of 104.8 million in the United States and a further 41 million at work. It then goes on to assess three other significant statistics: the time per month that a user is on the Web, the average length of time spent on any page and the gender of the user. The average length of use varies considerably from country to country and is primarily determined by local phone rates and secondarily determined by the relative average wealth of each country's populace as we can see from Table 6.2.

The detail of information for the American market isolates on a number of other elements of Web users. For instance, in mid-2000, an average of twenty Web sites are visited per week in the United States and 200 Web pages per week of content are perused by each user. What these statistics indicate is that there is a high concentration on particular sites and a related high return factor to any of these sites by a particular user (Netratings 2000).

Other details of use have been developed. Gender divide is regularly

Number of unique sites visited per month
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surveyed by the media survey companies providing another way to comprehend the particular success of Web sites. Countries such as Singapore and the UK have a male to female user ratio of 60:40, while the American market is generally perceived to be 50:50. Increasingly, the age range of users is incorporated into these compiled statistics: universally nearly 30 per cent of each country that Nielsen surveyed is composed of users in the 35–49 year old age demographic (Netratings 2000).

An added dimension of the counting economy is built from these basic statistics that establish the groundwork of thinking that an 'audience-commodity' however different and interactive it might be from other media forms is produced by the Web. Many Web sites demand some extra information from the user where a questionnaire that establishes the user's basic demographic statistics is demanded before access to the site is granted. In other words, this counting economy not only generates a massive **database** on users, it also provides the groundwork for connecting interests, economic background and consumer choices in a manner that is far more accurate and sophisticated than anything other media industries such as television have been able to generate. Moreover, once a particular user is identified as a subscriber, his/her Web identity can be tracked by the cookies or identity markers that are left upon visiting a Web site on their machine. As we have discussed in Chapter 2, the Web permits the surveillance of the user's activities that makes the 'audience-commodity' generated very valuable. Peter White has developed this understanding of the new economy where a great deal of effort and capital exchange comes from what he calls the 'transactional economy', a space where information can be generated once a connection is made between one element and another (White 1996: 4–11). The Web has allowed for the transactional economy to accelerate and intensify as valuable information is generated about users that can be packaged and sold to companies interested in targeting certain demographic groups.

HACKING AS COUNTER-ECONOMY

Coursing through the veins of the new Web economy are some elements that work to counter its overriding hegemony of what the future should be. The Web economy's fragility is that because of the very network of networks upon which it is built, there are possibilities that the security and '**firewalls**' designed to protect the citadels of the Web economy can be compromised and challenged. Emerging from the freeware and shareware movement, the hacker culture has a loose political strategy that attacks corporations such as Microsoft who try to commodify if not monopolize the Internet. This is not a completely organized counter movement; rather it is as Best has indicated a new politics that is not connected to 'public democracy' but a re-reading of 'more individualized and identity-based politics'

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using computer networks as a 'tool of protest and dissent' (Best 2002). Hackers are certainly not unified under one banner of activity; but they are demonized if not mythologized by the popular press as incredibly adept 'criminals' that make the Internet unsafe and its commercial patrons insecure. It is more accurate to characterize some but not all hackers as a vanguard class of the Web and the Internet that are trying to protect a relatively free flow of information exchange via the Internet. Although individual hackers are testing their abilities to break codes to enter into inner sanctums such as the Pentagon or a particular Web site, through their mischief they do destabilize the commercial Web. The **viruses** that are generated by hackers are similarly destructive of the corporatization of the Web even when it appears to attack the most innocent of users in their efforts to undermine the corporate entities that have been transforming the Web into yet another domain that is capitalist-driven.

SUMMARY

As much as the economic size of the Web economy is considerably smaller than prior to the April 2000 devaluation, it is important to realize that even with this contraction of commercial activity, there continues to be expansion in using the Web as a source for the exchange of goods and the commodification of information. What is developing is the routinization of the uses made of the Web via networked computers. More is bought online; more information is first sought out through online sources; greater numbers of business feel obligated to have a Web presence. And concurrently, the 'audience' of users is becoming increasingly comfortable with paying for products and services by the Web. Airline travel, books and video purchases, software and hardware, are examples of the way that young adults in particular are shifting how they buy and sell. The Web's various auction sites are equally successful because of the wealth of objects and the wealth of ready buyers. The Web economy has not achieved this development as if the market were free, uninhibited and unregulated. It is also significant that the strength of the Web economy has been dependent on government and regulatory support as we shall see in the next chapter.