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WHO FRAMED SILICON VALLEY AND HOLLYWOOD: NEWSPAPER COVERAGE OF REGIONAL BUSINESS CLUSTERS IN THE SAN FRANCISCO BAY AREA AND SOUTHERN CALIFORNIA

A Thesis

Presented to

The Faculty of the School of Journalism and Mass Communications

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Frank Michael Russell

May 2012

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The Designated Thesis Committee Approves the Thesis Titled

WHO FRAMED SILICON VALLEY AND HOLLYWOOD:
NEWSPAPER COVERAGE OF REGIONAL BUSINESS CLUSTERS
IN THE SAN FRANCISCO BAY AREA AND SOUTHERN CALIFORNIA

by Frank Michael Russell

APPROVED FOR THE SCHOOL OF JOURNALISM
AND MASS COMMUNICATIONS

SAN JOSÉ STATE UNIVERSITY

May 2012

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ABSTRACT

WHO FRAMED SILICON VALLEY AND HOLLYWOOD:
NEWSPAPER COVERAGE OF REGIONAL BUSINESS CLUSTERS
IN THE SAN FRANCISCO BAY AREA AND SOUTHERN CALIFORNIA

by Frank Michael Russell

In this study, coverage was examined of Silicon Valley technology companies and Hollywood entertainment companies in the *San Jose Mercury News, Los Angeles Times,* and *Chicago Tribune*. Previous work has suggested that newspaper coverage decisions are influenced by the communities that news organizations serve, journalistic values that can favor corporate interests, and the work of experienced framers of media messages.

Silicon Valley and Hollywood are two well-known examples of regional industrial agglomerations, which are clusters of adjacent related businesses that are a powerful form of organization for the deployment of capital and labor. California's technology and entertainment companies have developed strong geographical links and have had a substantial influence on global culture.

This study involved a quantitative analysis of business news coverage from the three newspapers and employment data for their metro areas from the Bureau of Labor Statistics. Support was found for a connection between the presence of a strong regional agglomeration and the content of business news coverage. Support also was found for an interest regardless of a newspaper's location in covering large technology companies—particularly Apple, Google, and Facebook—that are known as effective framers of media messages.

ACKNOWLEDGEMENTS

This thesis is about three topics I love—the news industry, Silicon Valley's technology industries, and Hollywood's entertainment industry. I'm fortunate that I've been able to combine all three in much of my work as a journalist. I'm also fortunate to have had encouragement from many people, including professors, colleagues, friends, family members, and fellow students.

I'm especially thankful for the support and detailed advice from my primary adviser, Richard Craig, and from my other advisers. William Tillinghast taught many of my undergraduate classes and was the school's graduate coordinator when I began work on my master's degree. Scott Fosdick, the current graduate coordinator, has become a very good friend. Diana Stover wasn't on my committee, but I'm thankful that she encouraged me to pursue graduate studies and offered very helpful advice about my thesis and career.

I'm appreciative for the understanding of managers and colleagues at the *San Jose Mercury News*, especially Randy Keith and Patricia Hannon. I finished this thesis while on a fellowship at the University of Missouri, and I'm thankful for the support provided by Jacqui Banaszynski, Tom Warhover, Joy Mayer, Laura Johnston, Elizabeth Conner, Maggie Walter, Nathan Estep, Jeanne Abbott, Elizabeth Brixey, Scott Swafford, John Schneller, Katherine Reed, Greg Bowers, Grant Hodder, Michael Jenner, Randy Smith, Amy McCombs, and Antonie Stam.

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Introduction

This study involved newspaper coverage of Apple Inc., Google Inc., Facebook, Inc., The Walt Disney Co., and other major technology and entertainment employers in California. This is a worthy topic of study because these large corporations are economic and cultural forces, globally and within California's two largest population centers. These companies have strong business connections and operate in a media, economic, and cultural environment that has been transformed by new technologies such as the Internet.

The entertainment industry combined with the tourism industry is the largest employer in Los Angeles County (Hozic, 1999; Kyser, Sidhu, Ritter, & Guerra, 2010). The technology sector is the largest employer in Santa Clara County (U.S. Bureau of Labor Statistics, n.d., b), the most populous county in Northern California's Silicon Valley, which stretches from San Jose north to San Francisco. Economists and geographers suggest such regional industrial agglomerations, also known as business clusters, are a powerful form of organization for the deployment of capital and labor. This study involved news coverage of corporations in the Silicon Valley and Hollywood business clusters by large newspapers in those regions and by a large newspaper in a city without such a major employment agglomeration.

The entertainment and technology industries have roles in a number of public policy issues. In recent decades, Hollywood and Silicon Valley have emerged as important forces in California's economy, replacing the military and

aerospace sector as dominant employers (Hozic, 1999; Porter, 1998; Scott, 2004; Storper & Christopherson, 1987). Hollywood and Silicon Valley companies often operate in monopolistic markets. Early in their history, Hollywood studios operated as vertically integrated organizations in a concentrated oligopoly, then adopted a "flexible specialization" model but retained oligopolistic control of their industry (Aksoy & Robins, 1992; Lampel & Shamsie, 2003; Storper & Christopherson, 1987). They have grown to become parts of large media conglomerates that often own news organizations (Bagdikian, 2004). In the technology industries, a preference for standards can lead to monopolistic power for successful companies (Boyd-Barrett, 2006; Rysman, 2009). The entertainment and technology industries both try to influence public policy, particularly intellectual property laws providing copyright and patent protections as well as legislation governing the use of anti-piracy technology (Ayres & Williams, 2004; Barlow, 2005; Gillespie, 2006).

Mass communications researchers, including Bagdikian (2004), have suggested that ownership of media organizations by large conglomerates such as Disney, News Corp., Time Warner, and Viacom influences the public agenda and news coverage. These media conglomerates have numerous business relationships and both shared and competing interests with Silicon Valley technology companies.

In this study, references to technology, media, and other companies in the *San Jose Mercury News, Los Angeles Times,* and *Chicago Tribune* were counted.

The data sets were analyzed for support for the hypothesis that the economic and cultural impact of Silicon Valley technology companies and Hollywood entertainment companies as well as the geographical links between them would be reflected in financial news coverage. Mass communication researchers previously have examined news content and the framing of media messages related to the technology and entertainment industries. In this study, an effort was made to contribute further to the field with an examination of news coverage of the technology and entertainment industries in an economic and geographical context, in part through the use of regional employment data from the Bureau of Labor Statistics.

Literature Review

Disney, Apple, and Pixar Animation Studios

Disney, founded in 1923, has grown to become one of the world's largest media conglomerates (Bagdikian, 2004; Walt Disney Co., n.d., a). Apple is a Silicon Valley computer and electronics manufacturer with a history of innovation (Fitzsimons, Chartrand, & Fitzsimons, 2008; Goggin, 2009; Lohr, 2010; West, 2005). Pixar Animation Studios is a pioneer maker of computer animated feature films (Catmull, 2008; Telotte, 2008). In 2006, Disney purchased Pixar for $7.4 billion (Barnes, 2008b). The acquisition combined two pioneering forces in the film animation industry. It also made Apple Chief Executive Officer and Pixar Chairman Steve Jobs—who had purchased Pixar in 1986 from *Star Wars* filmmaker George Lucas—a member of Disney's board of directors and the Southern California media conglomerate's largest individual shareholder (Barnes, 2008b; Catmull, 2008; Telotte, 2008).

Disney. Disney is one of the Big Five conglomerates, along with Time Warner, News Corp., Viacom, and Bertelsmann, that own most of the media outlets in the United States (Bagdikian, 2004). These five companies operate with monopolistic power in the U.S. media marketplace. "Technically," Bagdikian (2004) wrote, "the dominant media firms are an oligopoly, the rule of a few in which any of the few, acting alone, can alter market conditions" (p. 5). Although many U.S. companies operate under monopolistic market conditions, Bagdikian (2004) wrote, "Media products are unique in one vital respect. They

do not manufacture nuts and bolts: they manufacture a social and political world" (p. 9).

Among Disney's media holdings are Walt Disney Studios, ABC, ESPN, the Disney Channel, Touchstone Pictures, Hollywood Records, and the Disneyland and Walt Disney World theme parks (Fabrikant, 1995; Scott, 2004; Walt Disney Co., n.d., a). Disney aggressively uses its properties to promote the products of its other holdings, former CEO Michael Eisner noted in an interview with Wetlaufer (2000): "Synergy happens at Disney because it should. Our products scream out for synergy. . . . There is not a single part of Disney where the left hand can't wash the right" (p. 121).

Disney's founder and namesake, Walt Disney, was a Missouri "country boy," Bagdikian (2004) wrote, "who became an international phenomenon. His creations are everywhere in the world" (p. 33). Walt Disney, Bryman (1997) wrote, succeeded in the animation industry in part by creating Mickey Mouse, a star "with genuine character," and by giving his company's "cartoons clear, strong story lines" (p. 423). The Disney brand is associated with values such as honesty and sincerity, Fitzsimons, Chartrand, and Fitzsimons (2008) noted. However, Bryman (1999) wrote, critics have pointed to "Disneyfication" as the process by which Disney takes an original work and creates a distorted version that is "instantly recognizable as a Disney product" (p. 27). Lessig (2004) identified this process as "Walt Disney creativity" (p.24). "Disney (or Disney, Inc.)," he wrote, "ripped creativity from the culture around him, mixed that creativity with his own

extraordinary talent, and then burned that mix into the soul of his culture" (p. 24). Bryman (1999) identified "Disneyization" as the process by which society has become more like Disneyland or Walt Disney World, creating a themed, artificially friendly consumer culture in environments such as restaurants, shopping malls, and Las Vegas casinos. Throughout the Cold War, Hebdige (2003) wrote, "virulently anti-Disney discourse" (p. 153) was directed against Walt Disney and his namesake company—and the capitalistic and "Disneyfied" family values they represented.

After Walt Disney died in 1966, Collis and Montgomery (2008) wrote, his company's "powerful brand name survived almost two decades of benign neglect" (p. 145). Disney later flourished under the leadership of Michael Eisner, who was CEO from 1984 to 2005 (Bagdikian, 2004; Barnes, 2008b; Collis & Montgomery, 2008; Walt Disney Co., n.d., b). One of Eisner's first decisions as CEO was to restore Disney's animation legacy by committing $50 million for the production of *Who Framed Roger Rabbit*, which combined animation and live-action filmmaking (Collis & Montgomery, 2008). "Our brand is our greatest asset," Eisner noted, "and we handle it with extreme care" (Wetlaufer, 2000, p. 120).

As early as the 1930s, Walt Disney emphasized the importance of technology to his company and the entertainment industry, Telotte (2008) noted: "Our business has grown with and by technical achievements," Walt Disney said in 1938 to the Society of Motion Picture Engineers. "Should this technical

progress ever come to a full stop, prepare for the funeral oration for our medium" (p. 179). The Disney studio in its early days, Bryman (1997) wrote, "gained a reputation for cartoons of extremely high quality and innovativeness" (p. 424). Walt Disney, Catmull (2008) wrote, "believed that when continual change, or reinvention, is the norm in an organization and technology and art are together, magical things happen" (p. 70).

Apple. Apple, originally known as Apple Computer, was established in 1976 by co-founders including Steve Jobs and Steve Wozniak. With the Apple II in 1977 and the Macintosh in 1984, West (2005) noted, Apple "became both the face of the PC revolution and Silicon Valley's first global icon" (p. 2). Apple entered a nearly fatal decline in the mid-1990s, burdened by a dysfunctional corporate culture and marketplace adoption of Microsoft's Windows 95 operating system (West, 2005).

Apple's fortunes began to turn around in 1997 as Steve Jobs, who had departed in 1985, returned as interim CEO, and the company developed innovative products such as the iMac computer (West, 2005). "Apple," Fitzsimons, Chartrand, and Fitzsimons (2008) wrote, "has labored to cultivate a strong brand personality based on the ideas of nonconformity, innovation, and creativity" (p. 24). Apple introduced the iPod music player in 2001, the iPhone in 2007, and the iPad in 2010 (Goggin, 2009; Lohr, 2010). "From computers to smartphones," Lohr (2010) wrote, "Apple products are known for being stylish, powerful and pleasing to use." Until Jobs' death in 2011, Newman (2011) noted,

he led Apple with a philosophy that the company's products "brought to market not merely be great, they must be 'insanely great.' "

Pixar Animation Studios. In 1986, Jobs purchased what became Pixar Animation Studios from filmmaker George Lucas (Catmull, 2008; Telotte, 2008). Pixar, led by Ed Catmull, had been the computer graphics division of Lucas' Industrial Light & Magic special effects shop (Catmull, 2008; Telotte, 2008). Jobs hired John Lasseter, a former Disney animator who was trained at the Disney-funded California Institute of the Arts, as Pixar's creative leader. "In the early 1990s," Catmull (2008) wrote, "we were known as the leading technological pioneer in the field of computer animation. Our years of R&D culminated in the release of *Toy Story* in 1995, the world's first computer-animated feature film" (p. 65). Popular Pixar films such as *Toy Story* were distributed by Disney. Pixar's success—much like Disney's, Catmull (2008) wrote—was built on a "swirling interplay between art and technology" (p. 70).

In 2005, Jobs broke off negotiations with Disney over a new distribution deal for Pixar, Barnes (2008b) wrote, after he "had bitterly clashed" with then-Disney CEO Michael Eisner. Negotiations resumed in 2006 and concluded with a merger agreement, Barnes (2008b) wrote, after new Disney CEO Robert Iger "agreed to an explicit list of guidelines for protecting Pixar's creative culture," including that Pixar would remain in Emeryville, near Silicon Valley's technology cluster. Iger asked Lasseter, who had directed *Toy Story,* and Catmull to help revive Disney's animation operation (Catmull, 2008; Telotte, 2008).

Google and Facebook

Google, founded in 1998 by Stanford University doctoral students Larry Page and Sergey Brin, is known as the world's largest Internet search engine, but it makes a majority of its revenue from online advertising. Google became a publicly traded company in 2004. Its innovative approach to selling advertising by keywords has transformed the media marketplace (Google, n.d.; Lee, 2011).

Facebook, the social media site founded by Harvard University undergrad Mark Zuckerberg in 2004, has changed the way its members interact with friends, relatives, colleagues, and classmates. It brings in revenue by selling advertising targeted to members who have disclosed detailed personal information to their Facebook friends and to the site itself (boyd & Ellison, 2008; Debatin, Lovejoy, Horn, & Hughes, 2009; Haythornwaite, 2005; Henderson & Bowley, 2010; Vorvoreanu, 2009).

Google. By far the leading Internet search engine, Google fields hundreds of millions of queries each day, providing information about billions of Web pages. Through its complex, proprietary search algorithms, Google controls how the Internet is perceived by much of the online audience (Pan et al., 2007). Google's marketplace position is so dominant that "to google" has become a verb meaning to search for information on the Internet (Lee, 2011). In addition to its flagship search engine, Google offers an array of free content and services such as Google News and Google Maps (Bui, 2010; Lee, 2011; Pan et al., 2007).

As with many established media and newer Internet companies, Google makes money by selling advertising. "It is a commercially supported site," Lee (2011) noted, "and its economic survival depends on advertising revenue and a vast number of users" (p. 434). Google has become extremely efficient at selling advertising, using a vertically integrated platform on which businesses bid to place their messages by keywords next to the results of Internet users' queries on Google's search engine. Google controls every step of this process, Lee (2011) observed, and other companies cannot compete with Google to sell advertising on its platform. Notably, Google places ads based in part on expected relevance, Lee wrote. Even though the company may not necessarily deliver ads from the highest bidder, users are more likely to click on the messages they see, maximizing revenue for Google. Lee contended that this process has allowed Google to create economic value from access to information:

> Google sells what it claims to sell—information. As an advertising agency, it sells keywords. As a ratings company, it sells statistics of keywords. As a content provider, it sells search indexes. All these forms of information have exchange value because Google (along with other information companies) transforms information, which otherwise has no value, into commodities in the market. (p. 434)

Facebook. Facebook is not the first social networking site. Its predecessors, dating back as early as 1997, have included SixDegrees.com, LiveJournal, Friendster, and MySpace (boyd & Ellison, 2008). Facebook initially restricted membership to students at Harvard and other elite universities, then expanded entry to anyone with an academic ".edu" email address. The general

public was allowed to join Facebook in 2007, but by this time the site's early college-age members had established, as Vorvoreanu (2009) noted, "a well-defined Facebook college culture" (p. 68). Facebook now claims more than a half-billion active members, and its founding was the subject of a Hollywood motion picture, *The Social Network* (Corliss, 2010).

As boyd and Ellison (2008) noted, social media sites such as Facebook allow participants "to articulate and make visible their social networks" (p. 211) and members primarily use social networking sites to communicate "with people who are already a part of their extended social network" (p. 211). However, they also may use social networks to connect with people they don't know very well—but who may share common offline interests—or with total strangers (Haythornwaite, 2005; Henderson & Bowley, 2010). Facebook makes money by selling targeted advertising based on highly personal information that its members would be reluctant to share with other third parties (Debatin et al., 2009). "Facebook and other social network sites pose severe risks to their users' privacy," Debatin et al. (2009) wrote. "At the same time, they are extremely popular and seem to provide a high level of gratification to their users" (p. 87).

Although corporations and other organizations use social media to communicate directly with audiences, bypassing established mass media, this interaction is taking place on a neutral turf with its own cultural expectations rather than an online site under corporate control, Vorvoreanu (2009) noted:

> A Facebook user does not log into Facebook with the expectation to interact with an organization. So, although the technology makes it possible for organizations to interact with publics on Facebook, the social norms and expectations of Facebook culture create a context radically different from Web sites and blogs. (p. 71)

Hollywood and Silicon Valley: Regional Industrial Agglomerations

Hollywood and Silicon Valley are perhaps the best-known examples of what economists and geographers call regional industrial agglomerations, or clusters of related businesses (Porter, 1998; Storper & Christopherson, 1987). In such agglomerations or clusters, related businesses locate near each other to take advantage of economies of scale and network effects. This reduces risk and costs by allowing complex production work to be contracted out to specialized firms (Porter, 1998; Scott, 2004; Storper & Christopherson, 1987). Furthermore, Porter (1998) wrote, "the proximity of companies and institutions in one location —and the repeated exchanges among them—fosters better coordination and trust" (p. 80).

Employees in regions with such a business cluster reduce economic uncertainty by remaining close to potential employers, which in turn have access to a highly skilled labor force (Storper & Christopherson, 1987). "The concentration of specialized economic activity in one place," Scott (2004) wrote, "helps to promote processes of creativity and innovation via the constant interactions and mutual exchanges of information that occur between individuals within firms and across the system" (p. 195). As Porter (1998) noted, "What

happens *inside* companies is important, but clusters reveal that the immediate business environment *outside* companies plays a vital role as well" (p. 78).

Hollywood's entertainment cluster. "In geographic terms," Scott (2004) noted, "Los Angeles is by far the most important center for the production of filmed entertainment in the United States, whether for television or theatrical exhibition" (p. 192). In 1981, U.S. movie production, television production, and allied services work were highly concentrated in California—with 73 percent of movie production workers in the Los Angeles metropolitan area (Storper & Christopherson, 1987); within the region, most workers were concentrated in Hollywood and the San Fernando Valley.

In the 1990s, Hozic (1999) noted, the entertainment industry became Southern California's largest employer, surpassing the previously dominant aerospace and military sector. In addition to economies of scale, network effects, and labor market advantages, Scott (2004) noted, Southern California's pre-eminence in the entertainment industry "is reinforced by a series of institutional infrastructures in Hollywood, where dense webs of producers' alliances, professional guilds and labor unions provide coordinating services and other advantages to the industry at large" (p. 195). Specialized movie production firms have strong incentives to locate in Los Angeles:

> By locating in the center of the motion picture industry, they increase the opportunity to obtain contracts. The transactions ("deals") associated with this process often require face-to-face contact. Production companies and major studios encourage small firms to congregate in Los Angeles in order

> to ease the managerial coordination associated with the production of a non-standardized product. (Storper & Christopherson, 1987, p. 112)

Oligopolistic control in Hollywood. The Hollywood studios are unique in their transition, Lampel and Shamsie (2003) wrote, from "hierarchical and vertically integrated organizations" to a structure that is "flat" and "knowledge intensive rather than capital intensive," relying heavily "on networks to mobilize critical resources" (p. 2190). Very few business sectors made such an organizational change until at least the 1990s, but the entertainment industry transformed itself much earlier (Lampel & Shamsie, 2003).

From the 1920s to the 1940s, Hollywood's major studios operated a concentrated oligopoly, controlling distribution to many of the nation's theaters, employing production workers and signing actors to exclusive contracts (Storper & Christopherson, 1987). Weakened by the U.S. Supreme Court's *Paramount Decision*—which required studios to divest their theaters—and facing new competition from television, studios adopted a hybrid structure in the 1950s and 1960s, making fewer films in-house while financing and distributing the work of independent producers (Aksoy & Robins, 1992; Storper & Christopherson, 1987). By the 1970s, studios emphasized financing and distribution, with production mostly contracted out to independent producers and subcontractors. "In this entertainment industry complex," Storper and Christopherson (1987) noted, "specialized production firms are combined and recombined as they work on various projects" (p. 107).

Even as the motion picture industry moved toward what economists call flexible specialization, Aksoy and Robins (1992) wrote, "oligopolistic control never ceased to be a distinguishing feature of Hollywood" (p. 6). The major studios, Storper and Christopherson (1987) noted, "continue to dominate financing and distribution, retaining effective control over product definition and marketing" (p. 107). By 1990, five studios, Warner Bros., Disney, Universal, Paramount, and Twentieth Century Fox, had a combined 69.7 percent share of U.S. box-office receipts (Aksoy & Robins, 1992). In the late 1990s, Ayres and Williams (2004) noted, "media outlets felt the urge to merge with content providers. The strategy of the day was to create a multimedia conglomerate, including content providers such as movie studios and distribution channels such as TV broadcasting networks, cable systems, and telecoms" (p. 332). The major studios, Scott (2004) wrote, "are steadily being integrated into even larger and more complex multinational conglomerates, both U.S.-owned and foreign-owned" (p. 184). The goal of "major communications conglomerates," Aksoy and Robins (1992) wrote, "is to deepen and expand their control over the cultural industries" (p. 11). Southern California's entertainment industry is "at the center of an extensive system of national and international markets," Scott (2004) wrote. "It is hence at one and the same time highly localized as an apparatus of production and manifestly global in its overall reach and influence" (p. 193).

Silicon Valley's technology cluster. In Northern California, Silicon Valley technology companies such as Apple and Google, Turner (2009) noted,

have “proven to be extremely nimble at building alliances, making acquisitions and developing new and very popular products” (p. 78).

In the decades after World War II, the U.S. military monopolized information-technology research. However, information technology became commercialized in the 1970s with the establishment of semiconductor startups in Silicon Valley, the invention of the computer microprocessor, and the emergence of consumer electronics manufacturers (Hozic, 1999).

Today, Turner (2009) wrote, large Silicon Valley employers such as Apple and Google and small technology startups operate in and embrace a bohemian-style culture that models “the high-tech worker as a playful, emotionally integrated hipster and the corporate team as a cross between a family and a rock band” (p. 78). In Silicon Valley, rapid industry change can bring high employee turnover and job losses, Turner (2009) noted, but workers adapt by “maintaining rich social networks” that are “a key factor in sustaining one’s employability” (p. 77). In recent years, Turner (2009) noted, a “dramatic socialization” of labor has taken place in the technology sector:

> Two accounts of this process have emerged: one focused on the rise of the Internet and online collaboration, and the other focused on the development of networked modes of doing business within and between firms. Although they are rarely linked, when told together they suggest that the manufacture of information and IT is becoming entwined increasingly with the making of social worlds inside, outside and in between the boundaries of firms. (p. 76.)

In the technology marketplace, a preference for standards can lead to monopolistic power for successful corporations (Boyd-Barrett, 2006; Rysman,

2009). Intel, for example, controlled 80 percent of the global computer microprocessor market in 2001, providing chips for computers that used Microsoft's dominant Windows operating system (Boyd-Barrett, 2006).

Disney, the Entertainment Industry, and Technology

Throughout its history, Disney has included technological themes in its movies, television programming, and theme park attractions. "Despite its frequent nostalgic evocations," Telotte (2008) noted, "Disney has also, like no other American cultural institution, always been invested in the technological, and how it has effectively made the technological seem like a natural or complementary element of our world" (p. 7). Disney has presented technological themes in movies such as *20,000 Leagues Under the Sea, The Black Hole, Tron,* and *Monsters, Inc.*—and in television programming such as Disney's *Man in Space* series in the 1950s (Telotte, 2008). Disneyland was conceived, Bryman (1999) wrote, "as a celebration of America's past and as a paean to progress" (p. 31). At Disney's theme parks, Telotte (2008) noted, Main Street takes visitors on a trip through time, marking technological progress through the late 19th and early 20th centuries, and leading to regions including Tomorrowland, which depicts a "technologically driven future" (p. 12). At Walt Disney World, EPCOT's two lands—Future World and World Showcase—link a "technological future," Telotte (2008) wrote, with a "traditional cultural past" (p. 13).

Disney and Hollywood's other major studios have both embraced technology and feared its potential impact on their business. As Hozic (1999) noted:

> The relationship between the motion picture industry and technology has always been very ambivalent. Producers resorted to technological innovation whenever the industry faced an internal or external crisis; still, they generally perceived it as a cheap substitute for talent or a gripping film narrative. Distributors, on the other hand, distrusted any technology which they themselves did not control, and relied, mostly unsuccessfully, on 'gimmicks' such as Technicolor or 3-D to improve their position in the industry. (p. 291)

Throughout its history, Disney has used technology to differentiate itself from rivals (Bryman, 1997; Telotte 2008). "To survive in an increasingly competitive environment," Telotte (2008) wrote, Disney has "repeatedly had to innovate" (p. 5). For example, Disney technicians developed the multiplane camera in the 1930s to add realistic animated movement to films such as *Snow White and the Seven Dwarfs* and *Bambi* (Bryman, 1997; Telotte, 2008). For the theme parks, Telotte (2008) wrote, Disney gave animal and human characters lifelike sound and motion with Audio-Animatronics, "a kind of primitive robotics" that produced "consistently convincing illusions to help support the larger cinematic fantasy" (pp. 121-122). Disney embraced technologies including sound, color, television, and computer-generated imagery as well as distribution technologies such as the DVD and the Internet (Bryman, 1997; Telotte, 2008).

Sound and color. Hollywood studios began experimenting with sound in the 1920s (Barlow, 2005) and color in the 1930s (Telotte, 2008).

Warner Bros. initiated the "talkies" era with *The Jazz Singer* in 1927 (Barlow, 2005). At Disney, Bryman (1997) noted, "*The Jazz Singer* convinced Walt that the future of cartoons lay in sound" (p. 424). Disney included sound in cartoons such as *Steamboat Willie* in 1928 to stand out from rival animators (Bryman, 1997; Telotte, 2008). "*Steamboat Willie,"* Bryman (1997) wrote, "radically altered the public's perception of cartoon films and gave a huge boost to the industry as well as to the Disney studio" (p. 428). For *Fantasia* in 1940, Disney created Fantasound, a pioneering, but expensive stereo surround-sound system that was installed in only two theaters, in New York and Los Angeles (Telotte, 2008).

As for color, Disney adopted Technicolor's three-strip process in 1932 in exchange for an exclusive two-year deal. *Flowers and Trees,* Disney's first Technicolor project, was released the same year. The technology was adopted later in the decade by other studios with Technicolor films such as *A Star is Born, Gone With the Wind,* and *The Wizard of Oz* (Telotte, 2008). After the development of sound and color, the basic technology behind moviemaking was mostly unchanged until the introduction of digital effects in the 1980s (Hozic, 1999).

Television. Television brought programming into homes beginning in the 1940s and 1950s (Barlow, 2005). Hollywood initially responded to the medium with alarm, Aksoy and Robins (1992) wrote: "Television appeared to have created a totally new entertainment product capable of displacing Hollywood movies" (p. 2). As Scott (2004) noted, "In the immediate post-war decades, the two industries became locked into an intense competitive battle as more and more consumers turned to television as their preferred form of distraction, with consequent severe drops in attendance at motion-picture theaters" (p. 183). According to Barlow (2005), "Studios scrambled for alternative technologies and gimmicks that would keep people in theater seats and away from their couches" (p. 3), including 3-D and widescreen formats such as Panavision and CinemaScope. "The film industry," Telotte (2008) noted, "generally saw television not so much as a sign of progress, as one more possible enhancement to or outlet for its work, but as a future competitor, even a potential replacement" (p. 97).

"By the end of the 1950s," Scott (2004) wrote, "these lines of separation and antagonism were becoming increasingly blurred" (p. 183) and studios began establishing their own television production divisions. Initially, studios kept their best films away from the small screen. In the 1960s and 1970s, broadcasts of Hollywood movies became more common, Barlow (2005) noted, but usually in edited, "pan-and-scan forms that are anathema to cinema purists" (p.8). In 1960,

40 percent of network prime-time programming was produced in Southern California; four decades later, that had increased to 90 percent (Scott, 2004).

Disney began producing television programming in 1950 with a one-hour Christmas special for NBC (Telotte, 2008). In 1954, Disney agreed to produce the weekly *Disneyland* television series for ABC in a deal that created an outlet for Disney content, allowed the studio to promote its movie projects, and guaranteed millions of dollars in financing for the Disneyland theme park. In 1961, Disney moved its weekly show to NBC so it could produce programming in color. In 1983, the Disney Channel cable network was founded. Disney also has joined with other media giants to establish or buy cable channels such as Lifetime and A&E (Telotte, 2008).

Disney acquired ABC in 1995 for $19 billion, then the second-largest corporate takeover ever, in part to benefit from deregulation in 1991 ending financial interest and syndication rules that prohibited networks from owning a financial stake in their programming (Fabrikant, 1995; Scott, 2004; Telotte, 2008). These "fin-syn" rules were established by the Federal Communications Commission in the early 1970s, Bielby and Bielby (2003) noted, and were intended "to promote diversity and competition in the supply of prime-time entertainment programming and to forestall the kind of vertical integration that dominated the film industry during the studio era" (p. 574). Robert Iger, then president of ABC, and other television network executives argued that dropping the fin-syn rules would increase the diversity of programming while helping

networks compete with new technologies. By 2002, however, ABC, CBS, Fox, and NBC had full or partial ownership of 77.5% of their first-season prime-time programs (Bielby & Bielby, 2003).

Special and digital effects. In the 1970s, moviemakers such as George Lucas and Steven Spielberg turned to special effects technology to assert control over their productions, Hozic (1999) noted: "The principal elements of Lucas and Spielberg's strategy have been lower production costs, replacement of stars with technology and special effects, and control over merchandising and licensing rights" (p. 294). Disney turned to special effects to revive its struggling movie studio—developing a computer-controlled camera effects system in the late 1970s to allow realistic effects for *The Black Hole,* then integrating animation and computer graphics in the early 1980s for *Tron* (Telotte, 2008).

In the 1990s, Disney teamed up with Pixar to pioneer computer-generated imagery. Pixar's filmmakers, Telotte (2008) wrote, created in movies such as *Toy Story* "a CGI world that is a caricatured yet near-realistic environment" (p. 162). In part, Pixar films have been successful, Telotte (2008) wrote, "because they have managed to balance off the real and the wondrous, primarily through an approach implicit in that rhetoric of the 'better than real' " (p. 165).

Home entertainment: film, videotape, DVD, and the Internet. Until after World War II, audiences viewed most movies in theaters. However, limited home viewing began in the 1920s with the 16 mm Kodascope projector, then, in the 1930s, with Kodak's less expensive 8 mm format (Barlow, 2005). However, Barlow (2005) noted, home movie collecting was viewed as "an oddity, a vehicle for hobbyists" (p. 2) until the introduction of videotape.

In the 1970s, electronics manufacturers began marketing videocassette recorders that played movies on VHS tape or the ultimately unsuccessful Betamax format (Barlow, 2005). Once again, Hollywood initially viewed a new technology as a threat. Disney and Universal Studios unsuccessfully sued Sony, owner of the Betamax format, Barlow (2005) wrote, "claiming that the record button on the Betamax abetted in copyright infringement" (p. 145). In the 1980s, however, studio executives realized they could profit from the sale and rental of VHS movies. By the mid-1990s, watching movies on VHS tape and, to a lesser extent, laserdisc was common (Barlow, 2005). Before videotape, Barlow (2005) noted, only a few films—such as *Casablanca, Gone With the Wind,* and *The Wizard of Oz*—"had a broad and lasting cultural impact" (p. 44). "Since the introduction of the VCR, however, films both new and old have been shouldering their way into the general consciousness" (p. 45), among them George Lucas' original *Star Wars* trilogy.

The Digital Video Disc, originally called the Digital Versatile Disc, but now commonly known as the DVD, was introduced in 1997; by 2001, DVDs had

mostly replaced videotape and laserdiscs (Barlow, 2005). The DVD brought a cultural shift, Barlow (2005) wrote, making "it possible to watch a movie at home confident you are seeing an authoritative version" (p. xii). DVDs offer better picture quality than videotape and have room for features including commentaries from writers, directors, and actors; deleted scenes; "making of" documentaries; and revised versions of a movie, such as the director's cut of *Brazil* or the "alternate beginning" of *The Adventures of Buckaroo Banzai Across the Eighth Dimension* (Barlow, 2005).

For the major studios, the theater box office is now just the beginning of the revenue stream. In addition to home video distribution, studios or their corporate parents have interests in cable and satellite systems and channels (Aksoy & Robins, 1992; Hozic, 1999). Widescreen high-definition television and surround-sound systems provide a movie experience comparable to the theater, and home viewing accounts for three-quarters of the film industry's global revenues (Barlow, 2005).

Disney has developed an online presence through its Walt Disney Internet Group, providing content on websites such as ABC.com and ESPN.com and using the Internet to market its theme parks and other ventures (Telotte, 2008). Disney also has recognized the potential of online distribution of movies and other programming. "We are confident," then-CEO Michael Eisner told Wetlaufer (2000), "that the confluence of the computer and the television is coming. We are confident that our customers will get their movies and

entertainment and news and information from the Internet" (p. 123). Within weeks of replacing Eisner as CEO in 2005, Robert Iger decided that Disney would be the first broadcaster to make its shows available through Apple's iTunes store for the iPod (Walt Disney Co., n.d., c). In 2010, Disney began to provide content on Apple's new iPad, releasing an "app" for viewing ABC shows on the tablet computer (Chmielewski, 2010; Disney/ABC Television Group, 2010).

Technology as 'a natural part' of our world. Throughout its history, Telotte (2008) noted, Disney has emphasized technology both as an element of its operations and in the work it produces for a global audience:

> Technology has to be made to fit into our world, to seem a natural part of it rather than a challenge or intrusion. In some instances a rhetoric had to be developed for talking about the technology and what it could offer, as we see in Disney's treatment of space technology in its television shows of the 1950s, or in the way Pixar carefully drew out an aesthetic for digital animation in the 1990s. (p. 180)

Apple, Silicon Valley, and the Entertainment Industry

The growth of the Internet and the convergence of innovation in the semiconductor, computer hardware, software, and telecommunications industries expanded the use of information and communications technologies (ICTs), Ayres and Williams (2004) noted, resulting in a "rapid transition towards a digital economy" (p. 315). The entertainment industry's "fortunes are entwined with ICTs," Ayres and Williams (2004) wrote. "Indeed, the application of ICTs to innovating entertainment products is an important driver for the continued growth of the industry" (p. 315).

In particular, digital technology allows for online distribution of music and video, Ayres and Williams (2004) wrote, which "could significantly stimulate demand but also raises the thorny question of how to protect intellectual property rights of content providers" (p. 315). These content owners, Gillespie (2006) wrote, "wish to constrain what people do with their work—play but not copy, transport but not distribute—but they also wish to publish it, make it widely available and, typically, secure some cash in return" (p. 652).

Even before the Internet, Silicon Valley companies found customers in Hollywood. One of the valley's oldest technology companies, Hewlett-Packard, has a long relationship with Disney. In 1937, Disney purchased HP's first product, an audio oscillator used in recording sound for *Fantasia* (Telotte, 2008). In 2003, HP struck a 10-year alliance to provide computers and printers for Disney's corporate operations; HP also operates a 1,000-computer "rendering farm" used by Disney and DreamWorks animators (Telotte, 2008).

Silicon Valley has been a hub of much of the innovation that led to the digital economy. In the late 1950s, the integrated circuit was developed in part by Robert Noyce of Fairchild Semiconductor (Ayres & Williams, 2004). Under Moore's Law, coined by Fairchild's Gordon Moore, the capacity of integrated circuits would double about every two years. Noyce and Moore left Fairchild in 1968 to establish Intel, which invented the computer microprocessor in 1971 (Ayres & Williams, 2004). In 1976, Apple marketed its first desktop computer, which included an Intel microprocessor. Apple introduced its mass-produced

Apple II computer in 1977 (Ayres & Williams, 2004; Sumner, 2007). In 1980, IBM entered the personal computer market, licensing an operating system from Microsoft—then a small software startup—and creating a new industry standard. Apple introduced the Macintosh in 1984, positioning it as an alternative to the IBM PC (Ayres & Williams, 2004; Boyd-Barrett, 2006; Sumner, 2007; West, 2005). "The Mac was immediately recognized," West (2005) noted, "as incorporating breakthrough technology, most notably being the first with a graphical user interface for mass market PC buyers" (p. 5). Apple's sales grew in the 1980s and early 1990s, but the company rapidly lost ground to PCs running Microsoft's Windows 95 operating system, which was hailed as easier to use than earlier versions of Windows (West, 2005).

With the decline of the aerospace and military sector in the 1990s, technology companies such as Silicon Graphics turned to Hollywood for projects and funding (Hozic, 1999). As military spending dropped after the Cold War, the Clinton administration and California officials encouraged the conversion of military technologies to civilian use, particularly by the entertainment industry, Hozic (1999) noted: "The true relevance of Hollywood's obsession with technology becomes more obvious if we look beyond *Star Wars* and *Star Trek* to the broader context of political and economic change in the United States and the global economy" (p. 298).

Multi-sided markets and technology monopolies. As developers of computer operating systems, Microsoft and Apple operate in what economists call two-sided or multi-sided markets. Both companies rely on consumers and software developers for their marketplace success; Microsoft also relies on computer hardware makers. Many companies in the media, technology, and Internet sectors operate in such markets (Rysman, 2009). "Two-sided markets," Rysman (2009) noted, "typically have network effects and as such are likely to tip toward a single dominant platform. As a result, it is not surprising that these markets are of interest to antitrust authorities" (p. 137).

One such antitrust case involved Microsoft and the market for Web browsers. The U.S. Defense Department network that led to the Internet was created in the 1970s; two decades later, Silicon Valley entrepreneur Jim Clark was among the first to recognize its mass market potential. Clark and Marc Andreessen established Netscape Communications in Silicon Valley to commercialize the Mosaic browser Andreessen developed at the University of Illinois (Ayres & Williams, 2004). Perceiving the Netscape browser as a threat to its computer operating system, Microsoft responded by bundling the Internet Explorer browser with Windows 95. Microsoft's action resulted in an antitrust lawsuit by the U.S. Justice Department in 1997. However, as that case worked its way through the courts, Netscape lost share in the browser market and was acquired by AOL in 1999 (Ayres & Williams, 2004).

The Internet and digital distribution of entertainment content. As the Internet grew in the 1990s, specialized search engines were developed by Silicon Valley companies such as Yahoo and later Google. The Internet relies on computer servers designed by companies such as Hewlett-Packard and Sun Microsystems (now part of Oracle)—and routers and other networking equipment marketed by Cisco Systems and Juniper Networks. Technology companies have relied on consumer demand for entertainment industry content such as music and movies for much of the Internet's growth (Ayres & Williams, 2004). The entertainment industry guards intellectual property rights to its content, but some in the technology sector have a different perspective on copyright law, Ayres and Williams (2004) noted: "The view among technology buffs in Silicon Valley seems to be that copyrights are obsolete because 'information wants to be free' " (p. 332).

Apple introduced the iPod in 2001, but it wasn't a success with consumers until 2003, when Apple launched the iTunes music store (Johnson, Christensen, & Kagermann, 2008; Lohr, 2010). "Apple's true innovation," Johnson, Christensen, and Kagermann (2008) wrote, "was to make downloading music easy and convenient. To do that, the company introduced a groundbreaking business model that combined hardware, software, and service" (p. 52). The combination of iPod and iTunes, Shelton (2009) wrote, "disrupted the music industry by giving consumers what they wanted—their own choice of music, competitively priced, and available 'anytime, anywhere' electronically from

purchase to play" (p. 41). Indeed, iTunes sells nearly 3 million downloaded songs a day, an 83 percent share of the digital music market (Sundie, Gelb, & Bush, 2008). Despite its higher cost compared with competing devices, Apple's iPod is now the dominant digital music player, not necessarily because of "structural constraints" in the market, Sundie, Gelb, and Bush (2008) wrote, "but rather because consumers don't perceive the available substitutes as substitutes" (p. 178). Building on the iPod's success, Apple introduced the iPhone in 2007. The iPhone incorporated a music player into a cellphone, Goggin (2009) noted, but also moved the mobile phone "much more into the realm of other online media" (p. 243) by including an Internet browser and, eventually, access to third-party software applications, or apps, through Apple's iTunes store.

Movies and other video programming are now distributed online through services such as Apple's iTunes, which has offered sales of television shows and music videos since 2005, and movie rentals since 2008; Silicon Valley-based Netflix; and Hulu, which was established as a joint venture of ABC, NBC, Fox and other entertainment companies (Bilton, 2009; Markoff, 2008; Markoff & Holson, 2005). The combination of online distribution and information technology also can connect viewers to movies and other programming of interest. Netflix and TiVo in Silicon Valley and Amazon.com in Seattle, Davenport and Harris (2009) noted, "are primarily distributors of cultural products" that use "collaborative filtering" recommendation software as "an adjunct to their main business model" (p. 25). Netflix's software, for example, "produces movie

recommendations by correlating a data set of more than a billion movie ratings from its customers" (p. 25).

Intellectual property and anti-piracy technology. "Piracy remains a major obstacle" to online distribution of media content, Ayres and Williams (2004) noted, "a problem that will only grow worse as network connections improve to allow download of high-quality video" (pp. 336-337). Entertainment and technology companies share a common interest in protecting intellectual property (Ayres & Williams, 2004; Barlow, 2005). "Entertainment and software firms," Ayres and Williams (2004) noted, "have been cautious in offering products in forms that could be more easily copied" (p. 337). "A corporation like Microsoft or Disney," Barlow (2005) wrote, "sees a future where it loses control over its most valued assets—for Microsoft, its software codes, for Disney, its animated creations and its movies" (p. 147). Corporate interests, including media and technology companies, vigilantly guard control of their intellectual property. However, Lessig (2004) contended, copyright and patent protections are intended for the good of society rather than for the benefit of individual innovators or content creators. "Intellectual property is an instrument," he wrote. "It sets the groundwork for a richly creative society but remains subservient to the value of creativity" (p. 19).

Media companies such as Disney have lobbied Congress to extend the amount of time granted for copyright protections. For example, Lessig (2004) noted, Disney contributed an estimated $800,000 to lawmakers during the 1998

election cycle as Congress considered the Sonny Bono Copyright Term Extension Act, which lengthened copyright terms by 20 years. The Motion Picture Association of America and the Recording Industry Association of America also contributed to the lobbying effort for the bill. The U.S. Constitution, Lessig noted, gives Congress limited authority over intellectual property rights; copyright law allows for fair use and the eventual movement of content into the public domain. Disney's copyright on Mickey Mouse, for example, expires in 2023 (Bagdikian, 2004). At that time, Barlow (2005) noted, Disney's star character "will be available for anyone to use, in any way they may wish to" (p. 147) under current copyright law.

Before the introduction of digital technology, Gillespie (2006) wrote, "copyright law and the mechanisms of enforcement were the primary means" (p. 652) of regulating the use of creative content. In recent years, studios have turned to anti-piracy technology such as Content Scrambling System (CSS) encryption (Barlow, 2005; Gillespie, 2006) to prevent digital reproduction of DVDs. "This digital rights management (DRM) strategy," Gillespie (2006) noted, "if it works, offers benefits over enforcement through law" (p. 65)—preempting copyright infringement before it takes place and avoiding use of the legal system to pursue damages. "No anti-piracy system will be infallible," Ayres and Williams (2004) wrote. "The point is to make copying difficult enough to discourage most cases" (p. 337).

The 1998 Digital Millennium Copyright Act made it unlawful to circumvent anti-piracy technology. Lessig (2004) described the legislation as "*legal code* intended to buttress *software code* which itself was intended to support the *legal code of copyright"* (p. 157, emphasis in the original). While the DMCA protects technology that prevents copyright infringement, it also can block the fair use of content (Barlow, 2005; Gillespie, 2006). As Barlow (2005) noted, "A right that cannot be exercised is no right at all" (p. 148). Media companies, Barlow (2005) wrote, should "find ways of coming to terms with consumer manipulation of copyrighted material" (p. 156); however, they "perceive such manipulation as attacks on the basis of their very existences—so they will fight hard to protect themselves" (p. 156).

Google, Facebook, the Internet, and the Disruption of Media

Internet search engines such as Google and social media companies such as Facebook have transformed a mass media landscape once dominated by publishers and broadcasters. In particular, the Internet has disrupted the business models of established media companies. In the news industry, for example, six in 10 U.S. consumers now get some of their news online on a typical day (Rainie & Purcell, 2010). According to Purcell, Rainie, Mitchell, Rosenstiel, and Olmstead (2010), the Internet has surpassed radio and newspapers "and ranks just behind TV" (p. 3) in popularity as a news platform.

Using algorithms to search for the latest news, Internet portals such as Google News have automated the traditional "gatekeeping" function of editors

employed by established news organizations (Bui, 2010). Social media sites such as Facebook and Twitter, Hermida (2010) wrote, allow individuals and organizations to take their messages directly to audiences, "enabling the disintermediation of news and undermining the gatekeeping functions of journalists" (p. 300). The asynchronous, many-to-many communication potential of the Internet and social media has transformed the dissemination of political messages. In Egypt, young protesters used Facebook and other social media sites in 2011 to organize demonstrations that led to the overthrow of dictator Hosni Mubarak (Hassan & Fleishman, 2011). In the United States, the leaderless Occupy Wall Street movement has used Facebook, Twitter, and YouTube to spread its message (Preston, 2011). However, the Internet can be used to distribute misinformation. For example, blogs and email were used to spread the false rumor during the 2008 presidential campaign that then-Sen. Barack Obama was a Muslim (Kenski, Hardy, & Hall Jamieson, 2010; Weeks & Southwell, 2010).

With the growth of social media, Purcell et al. (2010) noted, news consumers have a more participatory relationship with media content; "37% of internet users," they wrote, "have contributed to the creation of news, commented about it, or disseminated it via postings on social media sites like Facebook or Twitter" (p. 2). Increasingly, news consumers are using social networking sites to connect directly with content creators. "In other words," Purcell et al. (2010) wrote, "they have friended or become a fan of a journalist or

news organization and they catch up on news through this relatively new channel of news dissemination" (pp. 40-41).

While publishers and broadcasters are struggling to support their businesses in this media environment, innovators such as Google and Facebook have created successful advertising-supported Internet business models. Social media sites such as Facebook, Rainie and Purcell (2010) wrote, have become proficient at targeting advertising to viewers by encouraging or requiring them to provide demographic data before viewing content on their platforms.

At the same time, search engines such as Google have brought more efficiency to the process of gathering the news. Machill and Beiler (2009) noted that journalists use Google to check facts and find information relevant to their stories without the constraints of time or space; however, they may not necessarily be aware that Google delivers results selected from the perspective of its search engine algorithms. "Search engine bias," though, can work to the benefit of established journalists and news organizations, Bui (2010) noted:

> When it comes to the news media environment, such bias means that a limited number of big media are more likely to be included and ranked in high order by search engines. The more links a website has and the more prestigious those links are, the higher it is in ranking order. Consequently, in theory, there is little chance for local, newly-formed or lesser-known media to compete with mainstream media. (p. 6)

News Coverage of Entertainment and Technology Companies

Disney owns the ABC television network, which in turn owns broadcast news outlets such as KABC-TV in Los Angeles and KGO-TV in San Francisco

(ABC, n.d.). Other major television news outlets serving Los Angeles and Silicon Valley are controlled by corporate giants such as NBC Universal, which owns KNBC in Los Angeles and KNTV in San Jose, and News Corp., which owns the Fox Television Stations, including KTTV in Los Angeles (NBC Universal, n.d.; News Corp., n.d.).

Corporate-owned news media, Bagdikian (2004) contended, "present the public with unnecessarily incomplete news because, with rare exceptions, they take their news from governmental and private power centers" (p. 85). Furthermore, Bagdikian (2004) wrote, mass media are reluctant to report what they "know with exquisite detail: important information about the major media themselves" (p. 102). Countering this view, Fortunato (2005) noted that journalists' professional standards call for straightforward reporting, even when their corporate employers are involved in the news (Fortunato, 2005). For example, in an interview with Fortunato (2005), ABC News President David Westin "indicated that people from Disney do not call him about editorial content" (p. 100). However, Bagdikian (2004) argued, corporate owners needn't interfere directly with news operations because they can hire and fire senior decision makers.

Fortunato (2005) noted "the cross-promotional opportunities" available to corporate media giants: "For example, Disney can use ABC to promote its Disney films and theme parks and use its theme parks to promote its films, musical

artists, and ABC programming" (p. 109). Often, however, news media outlets also promote competitors' products (Fortunato, 2005).

The biggest newspapers in Southern California and the San Francisco Bay Area are controlled by large corporate chains such as the Tribune Co., owner of the *Los Angeles Times*; Hearst, which owns the *San Francisco Chronicle*; and MediaNews Group, majority owner of the *San Jose Mercury News* and *Los Angeles Daily News* (Hearst, n.d.; MediaNews Group, n.d.; Tribune, n.d.). These publishers aren't owned by the Big Five media conglomerates. However, Bagdikian (2004) contended, "newspapers' relatively detailed stories are still clustered around the center-right of politics because their news is mainly drawn from corporate life and major political leaders" (p. 121). Like many technology and media companies, newspapers operate in two-sided markets, Rysman (2009) noted, depending on both readers and advertisers for financial success.

Journalistic and corporate values. News media, Johnson-Cartee (2005) wrote, "are inherently part of the community where they exist" (p. 187) and select stories "that will have an impact on the audience. Stories are selected that will 'touch' or affect the audience in some way; in other words, the stories will 'connect' with audience members, establishing resonance" (p. 127).

Large corporations may have advantages in framing media messages—stemming in part from how journalists do their work. "Every metropolitan newspaper in the country has a daily section specializing in business and corporate affairs," Bagdikian (2004) wrote. "But for decades they devoted most

of their space and energies to the celebration of corporate executives as heroes and geniuses" rather than "investigating and publishing sins of corporations" (p. 103). Indeed, Gans (1979) identified "responsible capitalism" as one of the values of U.S. journalism:

> The underlying posture of the news toward the economy resembles that taken toward the polity: an optimistic faith that, in the good society, businessmen and women will compete with each other in order to create increased prosperity for all, but that they will refrain from unreasonable profits and gross exploitation of workers or customers. While monopoly is clearly evil, there is little explicit or implicit criticism of the oligopolistic nature of much of today's economy. (p. 41)

Journalists seek balance in their stories in part by allowing individuals, corporations or other entities to respond to criticism (Johnson-Cartee, 2005). As journalists seek multiple sources, Fortunato (2005) wrote, they "are inevitably presented with and asked to sift through multiple frames" (p. 60). In the process of creating public messages, Johnson-Cartee (2005) noted, "experienced 'frame-makers,' or those with skills in crafting and sponsoring policy frames, are more likely to have their frames accepted than those who are novices" (p. 25).

Johnson-Cartee (2005) identified news promoters as "those individuals or groups who draw attention to occurrences, naming and identifying these occurrences as significant for others" (p. 183). They "construct information that promotes their preferred version of reality; in other words, they construct narrative frames" (p. 199). Corporations and other entities, Fortunato (2005) wrote, "try to get the mass media to select their stories and frame those stories from their perspective. Why these content providers try to frame an issue is not

difficult to discern: They are trying to influence the public, policy, sales, voting, or whatever other behavior might be their desired outcome" (pp. 58-59). Furthermore, Johnson-Cartee (2005) wrote, "news promoters will frame attributes associated with the people, organizations, issues, policies, or positions in negative or positive terms. Such characterizations influence how others will evaluate the subjects" (p. 200). Corporate reputations, Dowling and Weeks (2008) wrote, can be measured "by listening to how people and journalists talk about a company and examining the specific words and phrases they use to describe and evaluate it" (p. 29).

Corporations, public relations, and technology coverage. Content providers, Fortunato (2005) noted, are often represented by "public relations professionals who have skill and training in crafting messages, carefully selecting their distribution vehicle, and developing relationships with the mass media" (p. 136). Apple and most other major corporations, Dowling and Weeks (2008) wrote, have in-house public relations groups "tasked with creating a positive image for their company" (p. 31). "These public relations professionals," Fortunato (2005) wrote, "are entrusted with presenting the person or group they represent in the most positive light to the mass media and audience" (p. 136). Journalists and public relations professionals have different roles in this process:

> The public relations professionals' objective is in providing honest facts, but their interpretation of facts and events and what they choose to highlight or frame are highly subjective and in their own interests. The journalist must understand that he or she is merely obtaining only one

> perspective when speaking to a public relations practitioner. (Fortunato, 2005, p. 137.)

Indeed, media messages have contributed to the adoption of personal computers, Kelly (2009) noted. Both news articles and advertisements have increased consumer desire for personal computers since they were introduced in the marketplace in the 1980s, Kelly wrote, with framing intended to affirm "middle-class aspirations for career success by assuming that enhanced competitiveness in school and the workplace was a desirable goal and ultimately create consumer demand for a new, high-end durable good" (p. 37). For the computer and other new technologies, messages from mass media and other sources, Vishwanath (2009) wrote, "not only help create initial impressions about the innovation, but also construct meaning, which once formed, potentially endures, affecting all further interactions with the technology" (p. 178).

Many journalists who cover the technology industries focus on new products, their chances for success in the marketplace and how they affect company sales and profitability (Dowling & Weeks, 2008). In mainstream media coverage, positive themes, such as technology's ability to empower its users, outweigh negative themes, such as technology's "destructive effect on our attention spans" (Pew Research Center's Project for Excellence in Journalism, 2010, p. 2). Despite the influence of public relations practitioners, journalists choose their own "mental models" of corporate news, Dowling and Weeks (2008) wrote: "For example, a technology company that we studied promoted the

functionally oriented, innovative features of its product, but journalists focused on the product's styling" (p. 32). News media also influence consumers' perceptions of individual companies, Dowling and Weeks (2008) noted:

> The power of the media comes from its reach and prominence, its role in certifying some companies as legitimate and important players in the market and people's beliefs that it has superior access to information and expertise in evaluating companies. In this way, what the media says has a real impact on the business fortunes of companies. (p. 28)

The Pew Research Center's Project for Excellence in Journalism (2010) found, based on a content analysis of U.S. news outlets from June 1, 2009, to June 30, 2010, that nearly one-quarter of stories involving technology conveyed "the notion that technology is making life easier and more productive" (p. 1). The study included national and local newspapers, cable and network newscasts, websites, and radio programs. In technology coverage by such mainstream news outlets, the Pew researchers concluded, "the press reflects exuberance about gadgets and a wonder about the corporations behind them, but wariness about effects on our lives, our behavior and the sociology of the digital age" (p. 3).

The Pew study found the launch of Apple's newest iPhones was the second-biggest storyline during the period surveyed, followed closely by the introduction of Apple's iPad tablet computer. Apple, "with its flashy press events and often drawn out releases of new products" (Pew Research Center's Project for Excellence in Journalism, 2010, p. 2), accounted for 15.1% of technology stories, more than any other company. Apple was followed by two other Silicon Valley technology companies, Google and Facebook. Social media startup Twitter,

based in San Francisco, was fourth. "Once feared" Microsoft, the study found, "fell far behind—attracting just a fifth of the coverage of Apple and less than half that of Twitter" (p. 2). Overall, coverage of technology companies such as Apple was "generally positive" (p. 3):

> For Apple, the most heavily covered technology company, 42% of the stories described the company as innovative and superior, and another 27% lauded its loyal fan base. But there were doubts. The most common such negative thread, that Apple products don't live up to the hype, appeared in 17% of stories about Apple. For Google, the company's advancements in making content easier to find topped its coverage at 25%. But it was only half as likely as Apple to be framed as having superior, innovative products (20%). (Pew Research Center's Project for Excellence in Journalism, 2010, p. 3)

While Apple has a favorable image in the press, it also has a reputation as a company that seeks to tightly control news coverage of its newest products, Carr (2010) wrote: "Apple executives have often behaved as though the ultimate custody and control of information lies with them, and the company has gone to extraordinary lengths to protect its interests." Apple's overwhelmingly positive reputation in the news media has persisted, Carr noted, despite the company's limited interaction with reporters:

> The media's crush on Apple has always been an unrequited love affair. The company has a few familiars in the press whom it favors, but Apple has "no comment" programmed on a macro key. The company has unsuccessfully sued bloggers who, it believed, had punctured its veil of secrecy, and important tech news organizations like *Wired* have been shut out as a result of coverage deemed ill-mannered. (Carr, 2010)

Summary and Theory

Silicon Valley and Hollywood. Disney, Apple, Google, and Facebook operate in two of the best-known regional industrial agglomerations: Southern California's Hollywood entertainment industry cluster and Northern California's Silicon Valley technology industry cluster. These two regional industrial agglomerations share close ties, with Hollywood emerging as Southern California's dominant employer after the decline of the aerospace and military sector—and with entertainment studios replacing that industry as major customers for Silicon Valley technology companies. In both industries, major corporations operate with monopolistic or oligopolistic market power. Disney and Apple, meanwhile, were closely linked by the presence of Apple CEO Steve Jobs as a Disney board member and the company's largest individual shareholder.

Entertainment companies such as Disney and technology companies such as Apple, Google, and Facebook are sources of creativity and innovation. Hollywood and Silicon Valley are economic and cultural forces globally and in the regions where they are located, and Silicon Valley has helped Hollywood expand its cultural reach with new technologies such as Internet distribution of content. Entertainment and technology companies also attempt to influence public policy —particularly anti-piracy and copyright legislation.

Analytical framework. Silicon Valley technology companies and Hollywood entertainment companies are subjects of news coverage because of their economic and cultural impact, both regionally and globally; their products; and their efforts to influence public policy.

Media and technology corporations, like other news promoters or content providers, frame messages in an effort to influence news coverage in the regions where they are based and elsewhere. Corporations, particularly those in the media and technology industries, may have several advantages in this process. News organizations, Johnson-Cartee (2005) observed, are influenced by the communities in which they exist. Journalists' values, Gans (1979) and Bagdikian (2004) noted, favor corporate interests. Most large media conglomerates own broadcast news organizations (Bagdikian, 2004), and the technology industries have a long history of interaction with the entertainment industry. Journalists, Johnson-Cartee (2005) wrote, seek balance by sifting through competing frames, and experienced frame-makers are usually more successful in this process. Corporations such as Apple, Google, Facebook, and Disney employ public relations practitioners who are knowledgeable about framing and targeting messages (Dowling & Weeks, 2008; Fortunato, 2005), although journalists construct their own models of corporate news.

Research. This environment for news coverage of Silicon Valley technology companies and Hollywood entertainment companies raises numerous possible questions for research. This study involved an analysis of quantitative data to determine whether the presence of a regional industrial agglomeration such Silicon Valley's technology cluster or Hollywood's entertainment industry is reflected in news coverage of Apple, Google, Facebook, Disney, and other large technology or entertainment companies by newspapers in Northern California, Southern California, and elsewhere in the country.

Research Questions

The economic, geographical, and cultural relationships between Apple, Google, Facebook, Disney, other technology and media companies, news organizations, and regional news audiences raise many possible research questions. In this study, three questions were considered:

Q1. **Is the presence of a technology or entertainment business cluster reflected in the volume of business news coverage of companies in these industries by the largest daily newspapers in Silicon Valley and Los Angeles?** Does the technology sector dominate business news coverage in the *San Jose Mercury News*? Does the motion picture industry dominate business news coverage in the *Los Angeles Times*? How does that coverage compare with business news in the *Chicago Tribune*, the largest newspaper in a city with multiple corporate headquarters, but without a major regional industrial agglomeration?

Q2. **Is the relationship between the technology and entertainment industries reflected in business news coverage?** Does the *San Jose Mercury News* provide a substantial volume of coverage of the entertainment industry? Does the *Los Angeles Times* provide a substantial volume of coverage of the technology sector?

Q3. **Is the global economic and cultural impact of the technology and entertainment industries reflected in business news coverage**

regardless of location? Is there a substantial volume of coverage of the technology and entertainment industries in all three newspapers?

Method

The study involved a quantitative analysis of samples of company references during a 12-month period in the largest general-interest daily newspapers in San Jose, Los Angeles, and Chicago. The analysis included business news coverage in three regional newspapers: the *San Jose Mercury News* in Silicon Valley; the *Los Angeles Times* in Southern California; and the *Chicago Tribune,* chosen because it is published in a city that is a major business center, but where no industry is a dominant employment sector. For further analysis, the references were grouped by industry sectors and locations of company headquarters.

Hypotheses

The samples were analyzed to test support for three hypotheses:

H1. The literature suggests that business clusters are powerful economic forces in their regions, that journalists' values favor corporate interests, and that news organizations reflect the communities they serve. Therefore, the presence of regional industrial agglomerations in Silicon Valley or Los Angeles will result in a large volume of coverage of technology companies such as Apple, Google, and Facebook in the *San Jose Mercury News* and entertainment companies such as Disney in the *Los Angeles Times*.

H2. The literature suggests a strong economic and geographical relationship between the Silicon Valley technology business cluster and the Hollywood entertainment cluster. Therefore, this relationship will result in a

large volume of coverage of the entertainment industry by the *San Jose Mercury News* and of the technology industries by the *Los Angeles Times*.

H3. The literature suggests that Silicon Valley's technology cluster and Hollywood's entertainment industry are global economic and cultural forces that affect news readers no matter where they live. Therefore, all three newspapers will include a substantial volume of coverage of technology and entertainment companies.

Story Samples

Samples of staff stories were prepared by selecting articles from the three newspapers during a 12-month period from April 2010 to March 2011. News articles and commentaries were downloaded from the ProQuest Newsstand database and the internal archives of the *San Jose Mercury News*. Stories published on the 5th, 15th, and 25th of each month were selected for the samples. Stories were identified as involving financial news if the name of a private company, industry or economic topic was included in the headline. (For example, articles published in the *San Jose Mercury News* on June 15, 2010, with key headline words such as "Yahoo," "tech firms," "Microsoft," "home sales," and "ratepayer funds" were identified as eligible for the *Mercury News* sample.)

Excluded from the story samples were articles without bylines, opinion and editorial page articles, consumer advocacy columns, entertainment and arts reviews and profiles, celebrity news columns, and political stories—some of which involved former eBay CEO Meg Whitman, who was running for governor of

California during the 12-month period, and former Hewlett-Packard CEO Carly Fiorina, who was seeking a U.S. Senate seat from California.

The archive searches produced numerous stories that were duplicates from other editions of the same newspaper. In these cases, only the most complete version of a story was included.

Newspaper industry consolidation influenced the definition of "staff story." The *San Jose Mercury News* is owned by the Bay Area News Group, which is controlled by parent company MediaNews Group. Articles with a *Mercury News* or Bay Area News Group tag or email address in the byline were considered staff stories. The *Los Angeles Times* and the *Chicago Tribune* are owned by the Tribune Co., which shares resources such as a Washington bureau and columnists among its newspapers. During the 12-month time period, neither newspaper distinguished between stories prepared by company staff in Los Angeles, Chicago or elsewhere; these stories were presented with only the names of the reporter (or reporters) in the byline. No effort was made in this study to determine whether an article presented as a staff story in the *Los Angeles Times* was actually written by a Tribune Co. employee in the *Chicago Tribune* newsroom or elsewhere, and vice versa. Stories distributed by the McClatchy-Tribune News Service also were presented in the same way as staff stories in the *Los Angeles Times* and *Chicago Tribune*. Such stories were excluded from the *Los Angeles Times* and *Chicago Tribune* samples if the reporter was recognized as a *San Jose Mercury News* employee. No effort was made to identify writers

for other newspapers distributed by the McClatchy-Tribune News Service; however, it is believed that very few such stories were included in the *Los Angeles Times* and *Chicago Tribune* samples. Articles with bylines that included references to news services such as The Associated Press, Reuters, or Bloomberg News were not considered staff stories.

It should be noted that the researcher has been employed by the *Mercury News* and wrote some of the bylined stories included in the San Jose sample.

Company References

After the story samples were prepared, the researcher counted references to private-sector companies or businesses. A "company reference" was defined as at least one mention of a company in a story. For example, if Apple was mentioned in a story 10 times, and Microsoft was mentioned once, one company reference was noted for both Apple and Microsoft.

Research and analyst firms that provided information for a story but were not the subject of a story (such as DataQuick, Jeffries and Co., etc.) were excluded from the count of company references.

An effort was made to eliminate duplicate company references to a subsidiary and its parent company. If a story was primarily about a parent company, but noted the subsidiaries owned by that parent company, a company reference was counted for the parent company, but not the subsidiaries. If a story was primarily about a subsidiary, but noted that the subsidiary was owned by the parent company, a company reference was counted only for the subsidiary. For

example, if a story about Walt Disney Co.'s earnings noted the media company's ownership of ABC and The Disney Channel, a company reference was counted only for Walt Disney Co. In isolated instances, company references were noted for both a parent company and subsidiary or for more than one subsidiary when each business establishment was a subject of the story (for example, in the case of a recent acquisition of one company by another).

Numerous relatively small companies were mentioned in only one story in one of the three newspapers. These one-time company references were considered not relevant for the purpose of this study. An initial data set was prepared that included references to 307 companies that were mentioned at least twice among the three newspapers. For example, a company that was mentioned once in the *Mercury News* and once in the *Los Angeles Times* was included in the data set, as were companies that were mentioned at least twice in one of the three newspapers. An analysis of variance, or ANOVA, test conducted for this data set found significant differences within the group and between groups for company references in the *Mercury News* sample ($F = 29.469$, $p < 0.001$). However, this initial data set did not otherwise meet the standard of statistical significance ($F = .809$, $p = .751$ for the *Chicago Tribune* sample; $F = .537$, $p = .970$ for the *Los Angeles Times* sample), perhaps because of numerous one-time references to subsidiaries of media and other parent companies.

A second data set (Table 1) was prepared that grouped subsidiaries with their corporate parents, resulting in 241 companies or company groupings. For

example, references to YouTube were grouped with its parent company, Google. An ANOVA test of this data set found statistically significant ($p \leq 0.001$) differences between and within groups for all three newspaper samples (*Mercury News,* n = 503, F = 76.632, $p < 0.001$; *Chicago Tribune,* n = 476, F = 53.118, $p < 0.001$; *Los Angeles Times,* n = 634, F = 29.433, p = 0.001; n signifies the number of company references in each newspaper sample).

Table 1.

Company References Grouped by Parent Company

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Google (*YouTube*)	43	8.5%	17	3.6%	22	3.5%	82	5.1%
Apple	45	8.9%	12	2.5%	23	3.6%	80	5.0%
Facebook	27	5.4%	13	2.7%	15	2.4%	55	3.4%
Microsoft	26	5.2%	7	1.5%	11	1.7%	44	2.7%
Twitter	19	3.8%	5	1.1%	12	1.9%	36	2.2%
Walt Disney Co. (*Disney Channel, Disney Interactive Studios, Disneyland, ABC, Disney/Pixar Animation Studios, Walt Disney Studios*)	2	0.4%	5	1.1%	24	3.8%	31	1.9%
Hewlett-Packard	24	4.8%	1	0.2%	4	0.6%	29	1.8%
News Corp. (*Fox Interactive, Fox Kids, Fox Business Network, Fox Searchlight, 20th Century Fox, Fox, Fox News Channel, MySpace, Wall Street Journal*)	4	0.8%	5	1.1%	20	3.2%	29	1.8%
Time Warner (*New Line Cinema, Warner Bros. Interactive Entertainment, Cartoon Network, CNN, HBO, Time Inc., Warner Bros.*)	0	0.0%	4	0.8%	24	3.8%	28	1.7%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Viacom (*CMT, Nickelodeon, Comedy Central, Spike TV, MTV Networks, Paramount Pictures*)	0	0.0%	3	0.6%	24	3.8%	27	1.7%
Amazon.com (*Internet Movie Database*)	6	1.2%	12	2.5%	7	1.1%	25	1.5%
Sony (*Sony Pictures*)	3	0.6%	8	1.7%	14	2.2%	25	1.5%
NBC Universal (*MSNBC, Universal Pictures, Universal Studios Hollywood, NBC*)	1	0.2%	5	1.1%	19	3.0%	25	1.5%
Toyota Motor (*Lexus*)	1	0.2%	9	1.9%	14	2.2%	24	1.5%
Yahoo	16	3.2%	2	0.4%	3	0.5%	21	1.3%
eBay (*PayPal*)	13	2.6%	4	0.8%	4	0.6%	21	1.3%
Intel	12	2.4%	1	0.2%	7	1.1%	20	1.2%
Bank of America (*Countrywide Financial, Bank of America Merrill Lynch*)	2	0.4%	7	1.5%	11	1.7%	20	1.2%
Netflix	8	1.6%	5	1.1%	6	0.9%	19	1.2%
Wal-Mart Stores	4	0.8%	9	1.9%	6	0.9%	19	1.2%
General Motors (*Cadillac, Chevrolet*)	1	0.2%	9	1.9%	8	1.3%	18	1.1%
UAL (*Continental Airlines, United Airlines*)	0	0.0%	16	3.4%	2	0.3%	18	1.1%
Cisco Systems	16	3.2%	0	0.0%	1	0.2%	17	1.1%
Verizon Communications (*Verizon Wireless*)	11	2.2%	0	0.0%	6	0.9%	17	1.1%
JPMorgan Chase	0	0.0%	7	1.5%	10	1.6%	17	1.1%
AT&T	7	1.4%	3	0.6%	6	0.9%	16	1.0%
Oracle (*Sun Microsystems*)	12	2.4%	1	0.2%	2	0.3%	15	0.9%
Groupon	5	1.0%	8	1.7%	2	0.3%	15	0.9%
BP	1	0.2%	5	1.1%	9	1.4%	15	0.9%
Pacific Gas & Electric/ PG&E	13	2.6%	0	0.0%	1	0.2%	14	0.9%
Target	2	0.4%	4	0.8%	8	1.3%	14	0.9%
CBS (*CBS Entertainment, Showtime*)	0	0.0%	4	0.8%	8	1.3%	12	0.7%
Ford Motor	0	0.0%	4	0.8%	8	1.3%	12	0.7%
McDonald's	1	0.2%	6	1.3%	4	0.6%	11	0.7%
Wells Fargo	1	0.2%	5	1.1%	5	0.8%	11	0.7%
Goldman Sachs	1	0.2%	4	0.8%	6	0.9%	11	0.7%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Sears Holdings (*Kmart, Sears*)	0	0.0%	7	1.5%	4	0.6%	11	0.7%
Samsung Electronics	5	1.0%	3	0.6%	2	0.3%	10	0.6%
AOL (*TechCrunch*)	4	0.8%	2	0.4%	4	0.6%	10	0.6%
HTC	5	1.0%	1	0.2%	3	0.5%	9	0.6%
Gawker Media (*Gawker, Gizmodo*)	4	0.8%	0	0.0%	5	0.8%	9	0.6%
AMR/American Airlines	0	0.0%	8	1.7%	1	0.2%	9	0.6%
Honda Motor	0	0.0%	5	1.1%	4	0.6%	9	0.6%
Boeing	0	0.0%	5	1.1%	4	0.6%	9	0.6%
Motorola/Motorola Mobility	5	1.0%	2	0.4%	1	0.2%	8	0.5%
Adobe Systems	5	1.0%	1	0.2%	2	0.3%	8	0.5%
Best Buy	2	0.4%	4	0.8%	2	0.3%	8	0.5%
Sara Lee	0	0.0%	5	1.1%	3	0.5%	8	0.5%
Citigroup (*Citibank*)	0	0.0%	4	0.8%	4	0.6%	8	0.5%
Fannie Mae	0	0.0%	2	0.4%	6	0.9%	8	0.5%
IBM	5	1.0%	1	0.2%	1	0.2%	7	0.4%
Zynga	5	1.0%	1	0.2%	1	0.2%	7	0.4%
LinkedIn	5	1.0%	1	0.2%	1	0.2%	7	0.4%
Electronic Arts	3	0.6%	0	0.0%	4	0.6%	7	0.4%
Procter & Gamble	2	0.4%	4	0.8%	1	0.2%	7	0.4%
Comcast	2	0.4%	2	0.4%	3	0.5%	7	0.4%
Walgreen	1	0.2%	5	1.1%	1	0.2%	7	0.4%
Barnes & Noble	0	0.0%	1	0.2%	6	0.9%	7	0.4%
Freddie Mac	0	0.0%	1	0.2%	6	0.9%	7	0.4%
Dell	4	0.8%	1	0.2%	1	0.2%	6	0.4%
Research In Motion	4	0.8%	0	0.0%	2	0.3%	6	0.4%
Starbucks	3	0.6%	2	0.4%	1	0.2%	6	0.4%
Nintendo	3	0.6%	1	0.2%	2	0.3%	6	0.4%
Safeway (*Vons/Pavilions, Dominick's*)	2	0.4%	1	0.2%	3	0.5%	6	0.4%
Nissan Motor	1	0.2%	3	0.6%	2	0.3%	6	0.4%
Foursquare	1	0.2%	2	0.4%	3	0.5%	6	0.4%
Delta Air Lines	0	0.0%	5	1.1%	1	0.2%	6	0.4%
J.C. Penney	0	0.0%	4	0.8%	2	0.3%	6	0.4%
BMW	0	0.0%	3	0.6%	3	0.5%	6	0.4%
Craigslist	0	0.0%	3	0.6%	3	0.5%	6	0.4%
Coinstar (*Redbox*)	0	0.0%	2	0.4%	4	0.6%	6	0.4%
Advanced Micro Devices	4	0.8%	0	0.0%	1	0.2%	5	0.3%
Acer	3	0.6%	1	0.2%	1	0.2%	5	0.3%
THQ	1	0.2%	0	0.0%	4	0.6%	5	0.3%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Southwest Airlines	0	0.0%	5	1.1%	0	0.0%	5	0.3%
T. Rowe Price Group	0	0.0%	5	1.1%	0	0.0%	5	0.3%
Kraft Foods	0	0.0%	4	0.8%	1	0.2%	5	0.3%
Hyatt Hotels	0	0.0%	4	0.8%	1	0.2%	5	0.3%
Kohl's	0	0.0%	3	0.6%	2	0.3%	5	0.3%
Macy's	0	0.0%	2	0.4%	3	0.5%	5	0.3%
Allstate	0	0.0%	1	0.2%	4	0.6%	5	0.3%
Pandora	4	0.8%	0	0.0%	0	0.0%	4	0.2%
Skype	4	0.8%	0	0.0%	0	0.0%	4	0.2%
SAP	3	0.6%	1	0.2%	0	0.0%	4	0.2%
Palm	3	0.6%	0	0.0%	1	0.2%	4	0.2%
Kleiner Perkins Caufield & Byers	3	0.6%	0	0.0%	1	0.2%	4	0.2%
Y Combinator	3	0.6%	0	0.0%	1	0.2%	4	0.2%
Sprint Nextel/Sprint	2	0.4%	1	0.2%	1	0.2%	4	0.2%
Chevron	2	0.4%	1	0.2%	1	0.2%	4	0.2%
New York Times	2	0.4%	1	0.2%	1	0.2%	4	0.2%
Edison International/ Southern California Edison	2	0.4%	0	0.0%	2	0.3%	4	0.2%
Salesforce.com	1	0.2%	2	0.4%	1	0.2%	4	0.2%
General Electric	1	0.2%	1	0.2%	2	0.3%	4	0.2%
Virgin America	1	0.2%	1	0.2%	2	0.3%	4	0.2%
Morgan Stanley	1	0.2%	1	0.2%	2	0.3%	4	0.2%
Sempra Energy (*Southern California Gas, San Diego Gas & Electric*)	1	0.2%	0	0.0%	3	0.5%	4	0.2%
State Farm	1	0.2%	0	0.0%	3	0.5%	4	0.2%
Health Care Service (*Blue Cross and Blue Shield of Illinois*)	0	0.0%	4	0.8%	0	0.0%	4	0.2%
Vanguard Group	0	0.0%	4	0.8%	0	0.0%	4	0.2%
EADS (*Airbus*)	0	0.0%	3	0.6%	1	0.2%	4	0.2%
Tribune Co. (*Los Angeles Times*)	0	0.0%	3	0.6%	1	0.2%	4	0.2%
UnitedHealth Group (*PacifiCare*)	0	0.0%	2	0.4%	2	0.3%	4	0.2%
Toys R Us	0	0.0%	2	0.4%	2	0.3%	4	0.2%
Activision Blizzard	0	0.0%	2	0.4%	2	0.3%	4	0.2%
Ally Financial (*GMAC Mortgage*)	0	0.0%	1	0.2%	3	0.5%	4	0.2%
Volkswagen	0	0.0%	1	0.2%	3	0.5%	4	0.2%
Costco Wholesale	0	0.0%	1	0.2%	3	0.5%	4	0.2%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
DreamWorks Animation SKG	0	0.0%	0	0.0%	4	0.6%	4	0.2%
Miramax	0	0.0%	0	0.0%	4	0.6%	4	0.2%
VMware	3	0.6%	0	0.0%	0	0.0%	3	0.2%
U.S. Venture Partners	3	0.6%	0	0.0%	0	0.0%	3	0.2%
Silver Lake Partners	3	0.6%	0	0.0%	0	0.0%	3	0.2%
Zillow	2	0.4%	1	0.2%	0	0.0%	3	0.2%
Digital Sky Technologies/ DST	2	0.4%	1	0.2%	0	0.0%	3	0.2%
Nvidia	2	0.4%	0	0.0%	1	0.2%	3	0.2%
BrightSource Energy	2	0.4%	0	0.0%	1	0.2%	3	0.2%
Tesla Motors	2	0.4%	0	0.0%	1	0.2%	3	0.2%
Intuit	2	0.4%	0	0.0%	1	0.2%	3	0.2%
Nordstrom	1	0.2%	1	0.2%	1	0.2%	3	0.2%
Borders Group	1	0.2%	0	0.0%	2	0.3%	3	0.2%
Wendy's Arby's Group/ Wendy’s	0	0.0%	3	0.6%	0	0.0%	3	0.2%
Yum Brands (*KFC, Taco Bell*)	0	0.0%	3	0.6%	0	0.0%	3	0.2%
Gap	0	0.0%	3	0.6%	0	0.0%	3	0.2%
US Airways	0	0.0%	3	0.6%	0	0.0%	3	0.2%
Charles Schwab Corp.	0	0.0%	3	0.6%	0	0.0%	3	0.2%
CVS Caremark (*CVS Pharmacy*)	0	0.0%	2	0.4%	1	0.2%	3	0.2%
Daimler/Mercedes-Benz	0	0.0%	2	0.4%	1	0.2%	3	0.2%
Johnson & Johnson	0	0.0%	2	0.4%	1	0.2%	3	0.2%
Whole Foods Market	0	0.0%	2	0.4%	1	0.2%	3	0.2%
Lennar	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Northrop Grumman	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Vizio	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Chrysler	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Home Depot	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Blockbuster	0	0.0%	1	0.2%	2	0.3%	3	0.2%
American Express	0	0.0%	1	0.2%	2	0.3%	3	0.2%
New York Stock Exchange/ NYSE Euronext	0	0.0%	1	0.2%	2	0.3%	3	0.2%
William Morris Endeavor	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Summit Entertainment	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Living Social	0	0.0%	1	0.2%	2	0.3%	3	0.2%
Liberty Media (*Starz Media*)	0	0.0%	0	0.0%	3	0.5%	3	0.2%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Wellpoint/Anthem Blue Cross	0	0.0%	0	0.0%	3	0.5%	3	0.2%
Weinstein Co.	0	0.0%	0	0.0%	3	0.5%	3	0.2%
Legendary Pictures	0	0.0%	0	0.0%	3	0.5%	3	0.2%
Lionsgate	0	0.0%	0	0.0%	3	0.5%	3	0.2%
Blue Shield of California	0	0.0%	0	0.0%	3	0.5%	3	0.2%
Better Place	2	0.4%	0	0.0%	0	0.0%	2	0.1%
3Par	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Cypress Semiconductor	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Toshiba	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Juniper Networks	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Fry's Electronics	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Blekko	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Greylock Partners	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Sequoia Capital	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Demand Media	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Castlight Health	2	0.4%	0	0.0%	0	0.0%	2	0.1%
Andreessen Horowitz	2	0.4%	0	0.0%	0	0.0%	2	0.1%
VantagePoint Venture Partners	2	0.4%	0	0.0%	0	0.0%	2	0.1%
General Mills	1	0.2%	1	0.2%	0	0.0%	2	0.1%
Nokia	1	0.2%	1	0.2%	0	0.0%	2	0.1%
McAfee	1	0.2%	1	0.2%	0	0.0%	2	0.1%
New Enterprise Associates	1	0.2%	1	0.2%	0	0.0%	2	0.1%
Avaya	1	0.2%	1	0.2%	0	0.0%	2	0.1%
CareerBuilder	1	0.2%	1	0.2%	0	0.0%	2	0.1%
Monster	1	0.2%	1	0.2%	0	0.0%	2	0.1%
In-N-Out Burger	1	0.2%	1	0.2%	0	0.0%	2	0.1%
Pfizer	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Solaria	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Infineon Technologies	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Martha Stewart Living Omnimedia	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Ubisoft Entertainment	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Hulu	1	0.2%	0	0.0%	1	0.2%	2	0.1%
Exelon/Commonwealth Edison	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Koninklijke Philips Electronics/Philips	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Midwest Banc Holdings/ Midwest Bank	0	0.0%	2	0.4%	0	0.0%	2	0.1%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Supervalu (*Jewel-Osco*)	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Taylor Capital Group/Cole Taylor Bank	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Campbell Soup	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Coca Cola	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Forever 21	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Abbott Laboratories	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Volvo	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Priceline	0	0.0%	2	0.4%	0	0.0%	2	0.1%
JetBlue Airways	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Playboy Enterprises	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Experian	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Bank of Montreal	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Northern Trust	0	0.0%	2	0.4%	0	0.0%	2	0.1%
FirstMerit	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Yelp	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Winston & Strawn	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Equifax	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Trans Union	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Apollo Group	0	0.0%	2	0.4%	0	0.0%	2	0.1%
Burger King	0	0.0%	2	0.4%	0	0.0%	2	0.1%
TSX Group/Toronto Stock Exchange	0	0.0%	1	0.2%	1	0.2%	2	0.1%
JBS	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Baxter International	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Teva Pharmaceutical Industries	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Unilever	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Rolls-Royce Group	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Logitech International	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Panasonic	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Berkshire Hathaway	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Mazda Motor	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Drugstore.com	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Aeropostale	0	0.0%	1	0.2%	1	0.2%	2	0.1%
American Eagle Outfitters	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Zumiez	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Saks	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Qantas Airways	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Deutsche Bank	0	0.0%	1	0.2%	1	0.2%	2	0.1%
US Bancorp	0	0.0%	1	0.2%	1	0.2%	2	0.1%

Table 1. Continued

Parent Company or Company	San Jose Mercury News*		Chicago Tribune*		Los Angeles Times**		Total	
	n = 503	%	n = 476	%	n = 634	%	n = 1,613	%
Deutsche Boerse	0	0.0%	1	0.2%	1	0.2%	2	0.1%
DoubleLine Capital	0	0.0%	1	0.2%	1	0.2%	2	0.1%
London Stock Exchange	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Norwest Venture Partners	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Pimco	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Aetna	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Westfield Group	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Starline Tours	0	0.0%	1	0.2%	1	0.2%	2	0.1%
Brinker International (*Chili's, Maggiano's Little Italy*)	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Exxon Mobil	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Occidental Petroleum	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Irvine Co.	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Lawry's the Prime Rib	0	0.0%	0	0.0%	2	0.3%	2	0.1%
American Apparel	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Sanofi-Aventis	0	0.0%	0	0.0%	2	0.3%	2	0.1%
SunPower	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Hasbro	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Subaru	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Yucaipa Cos.	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Tiffany	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Bungie Studios	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Relativity Media	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Bloomberg	0	0.0%	0	0.0%	2	0.3%	2	0.1%
East West Bancorp	0	0.0%	0	0.0%	2	0.3%	2	0.1%
AIG	0	0.0%	0	0.0%	2	0.3%	2	0.1%
Barclays	0	0.0%	0	0.0%	2	0.3%	2	0.1%

*Notes: *p < 0.001; **p = 0.001*

Groupings for Further Analysis

Company references were further grouped by three factors: location, defined as the U.S. metropolitan statistical area or country of the company's

headquarters; industry, defined by three- or four-digit NAICS code; and a broader researcher-designated industry sector.

The NAICS, or North American Industry Classification System, was developed by the U.S., Canadian, and Mexican governments to allow detailed comparison of business, employment, and related economic statistics. Employment establishments are designated by two- to six-digit codes allowing for various levels of detail and comparison. For example, a printed circuit assembly manufacturer is designated by the six-digit 334418 code; the five-digit 33441 code and four-digit 3344 code for semiconductor and other electronic component manufacturing; the three-digit 334 code for computer and electronic product manufacturing; and the two-digit 33 code, which is one of three such two-digit codes for manufacturers in general (U.S. Bureau of Labor Statistics, n.d., a; U.S. Census Bureau, n.d.).

In this study, companies were grouped primarily by three-digit NAICS codes, such as 512 for the motion picture and sound recording industries. However, for this study, it was necessary to distinguish between technology and media companies with an NAICS code of 511 for publishers. For that reason, these companies were grouped by the four-digit 5111 code for newspaper, periodical, book, and directory publishers; and the four-digit 5112 code for software publishers.

The federal government does not disclose NAICS codes reported by individual companies (U.S. Bureau of Labor Statistics, n.d., a). However, NAICS

codes can be obtained from private databases. For this study, ProQuest Newsstand, Standard & Poor's NetAdvantage, and Gales Databases' Business & Company Resource Center were sources of NAICS codes. Companies may have multiple NAICS codes for various business establishments. In cases of companies with more than one NAICS code, a "primary NAICS code" was determined. For example, Apple's primary three-digit NAICS code is 334 for computer and electronics product manufacturing, the company's largest source of revenue. However, Apple also operates smaller businesses with NAICS codes such as 5112 for software publishing. Standard & Poor's NetAdvantage was the main source of primary NAICS codes. NAICS codes could not be determined from these sources for 15 companies. In these cases, the researcher assigned an NAICS code based on similar companies.

The U.S. Bureau of Labor Statistics provides extensive employment-related data grouping establishments by NAICS code. The bureau reports employment by percentage of the total workforce. It also calculates a "location quotient," or LQ, for each industry defined as the ratio of "analysis industry" employment to "base industry" or all employment in a region divided by the ratio of analysis industry to base industry employment in a comparison area. For this study, the comparison area was the nation as a whole. The bureau's location quotient calculator (U.S. Bureau of Labor Statistics, n.d., b) was used to determine the LQ for each industry in the three metropolitan statistical areas where the *Mercury News,* the *Los Angeles Times*, and the *Chicago Tribune* are

published. For example, an LQ of 13.12 was found in 2010 for NAICS code 334, computer and electronics product manufacturing, in the San Jose-Sunnyvale-Santa Clara, CA MSA, and an LQ of 7.82 was found for NAICS code 512, motion picture and sound recording industries, in the Los Angeles-Long Beach-Santa Ana, CA MSA. By comparison, an LQ of 1 would indicate that an industry's proportion of employment in a region is the same as in the nation as a whole. In this study, employment data sets for 2010 were used. The Bureau of Labor Statistics data can be incomplete. For example, when it would be possible to infer proprietary information such as the size of an individual company's workforce, the bureau reports employment by percentage and the LQ for an individual NAICS code as "N.D." for "non-disclosable."

Finally, companies were grouped into broader researcher-designated sectors, primarily based on NAICS codes. For example, the technology sector included NAICS codes 334 (computer and electronics manufacturing), 5112 (software publishers), 517 (telecommunications), and 518 (Internet service providers, Web search portals, and data processing services). The media sector included NAICS codes 5111 (newspaper, book, periodical, and database publishers), 512 (motion picture and sound recording industries), and 515 (broadcasting). In a few cases, companies were assigned individually to broader sectors. For example, Twitter and Bloomberg are both assigned to the NAICS code 519 for information services. However, for this study, Twitter was designated as a technology company and Bloomberg as a media company.

Results

The samples were analyzed by company references; groupings of references to companies and parent companies; industries, as determined by NAICS codes; and researcher-designated industry sectors, which often included multiple NAICS codes.

Company References

Apple, Google, and Facebook were the three largest sources of company references in the *Mercury News* sample (Table 2.1), the *Los Angeles Times* sample (Table 2.2) and the *Chicago Tribune* sample (Table 2.3). This was consistent with Hypothesis 1 for the *Mercury News* sample, contrary to Hypothesis 1 but partly consistent with Hypothesis 2 for the *Los Angeles Times* sample, and partly consistent with Hypothesis 3 for the *Chicago Tribune* sample. However, the relevance of this data set to any of the hypotheses is ambiguous, primarily because of the lack of statistical significance for the *Los Angeles Times* and *Chicago Tribune* samples.

Even so, it may be worth noting that the 10 largest sources of company references in the *Mercury News* sample included nine technology companies. Based on the Pew study and other literature, it was not surprising to find Apple, Google, and Facebook at the top of this list. Four of the technology companies—Microsoft, Hewlett-Packard, Twitter, and Yahoo—compete with Apple, Google, or Facebook. The other two technology companies were Intel, the largest supplier of computer microprocessors, and Cisco Systems, the largest maker of Internet

networking equipment. The only non-technology company was Pacific Gas & Electric, a utility that serves customers in Northern California. PG&E was the subject of numerous news stories related to the September 2010 explosion of a natural gas pipeline in San Bruno on the San Francisco Peninsula, an accident that killed eight people and destroyed dozens of homes.

Table 2.1

San Jose Mercury News Company References

Company	References n = 503	%
Apple	45	8.9%
Google	43	8.5%
Facebook	27	5.4%
Microsoft	26	5.2%
Hewlett-Packard	24	4.8%
Twitter	19	3.8%
Yahoo	16	3.2%
Cisco Systems	16	3.2%
Pacific Gas & Electric/PG&E	13	2.6%
Intel	12	2.4%

Apple, Google, and Facebook also led a list of the 10 largest sources of company references in the *Los Angeles Times* sample. One entertainment industry employer, Warner Bros., was among these 10 companies. (Grouping entertainment subsidiaries with parent companies, however, produced a substantially different result.) Two technology companies, Twitter and Microsoft, and two large financial companies, Bank of America and JPMorgan Chase, also were on this list. Also included was Toyota Motor, which was the subject of

numerous news stories related to manufacturing problems, recalls, and the safety of its vehicles. In addition, the list included BP, which was the subject of numerous news stories related to its role in a major oil spill in the Gulf of Mexico. This sample, however, did not meet the standard of statistical significance. The *Los Angeles Times* sample of company references grouped by parent company, on the other hand, produced statistically significant results that were relevant to this study.

Table 2.2

Los Angeles Times Company References

Company	References n = 634	%
Apple	23	3.6%
Google	19	3.0%
Facebook	15	2.4%
Toyota Motor	14	2.2%
Warner Bros.	13	2.1%
Twitter	12	1.9%
Microsoft	11	1.7%
Bank of America	10	1.6%
JPMorgan Chase	10	1.6%
BP	9	1.4%

Apple, Google, and Facebook also were the three largest sources of company references in the *Chicago Tribune* sample, although the order was different. Facebook led the list of 10 businesses that were the largest sources of company references in the *Chicago Tribune* sample, followed by Apple and Google. Three other technology-related companies were included: Amazon.com,

Groupon (a Chicago-based startup), and Microsoft. The list also included two airlines, United Airlines and American Airlines; Wal-Mart Stores; and Toyota. Relevant conclusions related to the three hypotheses cannot be drawn from this sample, however, because it did not meet the standard of statistical significance.

Table 2.3

Chicago Tribune Company References

Company	References n = 476	%
Facebook	13	2.7%
Apple	12	2.5%
Google	11	2.3%
Amazon.com	11	2.3%
Wal-Mart Stores	9	1.9%
United Airlines	9	1.9%
Toyota Motor	8	1.7%
Groupon	8	1.7%
American Airlines	8	1.7%
Microsoft	7	1.5%

Company References Grouped by Parent Company

Grouping business subsidiaries by parent companies produced slightly different results for the *Mercury News* sample (Table 3.1), substantially different results for the *Los Angeles Times* sample (Table 3.2), and somewhat different results for the *Chicago Tribune* sample (Table 3.3). As noted above, an ANOVA test also produced statistically significant ($p \leq 0.001$) differences between and within groups for all three newspaper samples.

Statistically significant correlations were found between the newspaper samples. Contrary to Hypothesis 2, the strongest correlation (55.9%, $p < .001$) was found between the *Los Angeles Times* and *Chicago Tribune* samples. It is possible that this could be partly the result of shared resources by two newspapers owned by the Tribune Co. Partly consistent with Hypothesis 2, there was a slightly stronger correlation between the *Mercury News* and *Los Angeles Times* samples (46.8%, $p < .001$) than between the *Mercury News* and *Chicago Tribune* samples (43.3%, $p < .001$).

Consistent with Hypothesis 1, technology companies were the largest source of company references grouped by parent company in the *Mercury News* sample. As with the ungrouped sample, Apple, Google, and Facebook were the three largest sources of company references; nine technology companies were among the 10 largest sources of company references; and PG&E was the only non-technology company among the 10. Internet commerce company eBay, grouped with its online-payment subsidiary PayPal, replaced semiconductor maker Intel on this list.

Table 3.1

San Jose Mercury News Company References Grouped by Parent Company

Parent Company or Company	References n = 503	%
Apple	45	8.9%
Google (*YouTube*)	43	8.5%
Facebook	27	5.4%
Microsoft	26	5.2%
Hewlett-Packard	24	4.8%
Twitter	19	3.8%
Yahoo	16	3.2%
Cisco Systems	16	3.2%
eBay (*PayPal*)	13	2.6%
Pacific Gas & Electric/PG&E	13	2.6%

Consistent with Hypothesis 1, three Big Five media conglomerates with operations in Southern California's entertainment industry—Disney, Time Warner, and Viacom—were the largest sources of company references grouped by parent company in the *Los Angeles Times* sample. A list of the 10 largest sources of company references grouped by parent company also included News Corp., owner of 20th Century Fox and other Fox media properties; NBC Universal; and Sony, owner of Sony Pictures. Consistent with Hypothesis 2, Apple, Google, and Facebook also were on this list—but no longer in the three leading positions. Toyota was the only non-media or non-technology business that was among the 10 largest sources of company references grouped by parent company in the *Los Angeles Times* sample.

Table 3.2

Los Angeles Times Company References Grouped by Parent Company

Parent Company or Company	References n = 634	%
Walt Disney Co. (*Disney Channel, Disney Interactive Studios, Disneyland, ABC, Disney/Pixar Animation Studios, Walt Disney Studios*)	24	3.8%
Time Warner (*New Line Cinema, Warner Bros. Interactive Entertainment, Cartoon Network, CNN, HBO, Time Inc., Warner Bros.*)	24	3.8%
Viacom (*CMT, Nickelodeon, Comedy Central, Spike TV, MTV Networks, Paramount Pictures*)	24	3.8%
Apple	23	3.6%
Google (*YouTube*)	22	3.5%
News Corp. (*Fox Interactive, Fox Kids, Fox Business Network, Fox Searchlight, 20th Century Fox, Fox, Fox News Channel, MySpace, Wall Street Journal*)	20	3.2%
NBC Universal (*MSNBC, Universal Pictures, Universal Studios Hollywood, NBC*)	19	3.0%
Facebook	15	2.4%
Sony (*Sony Pictures*)	14	2.2%
Toyota Motor (*Lexus*)	14	2.2%

Partly consistent with Hypothesis 3, six technology-related companies were among the 11 largest sources of company references grouped by parent company in the *Chicago Tribune* sample. (A three-way tie for ninth place required a list of 11 companies rather than 10.) Google, grouped with its video-sharing social media site YouTube, was the largest source of company references. By contrast, social networking site Facebook was the largest source of company references in the ungrouped sample, but dropped to the third-largest source on this list. Apple and Amazon.com were tied as the fourth-largest source. Sony, as much a consumer electronics maker as a media company, and Groupon, a technology-related startup with headquarters in Chicago, also were represented.

Five non-technology or non-media companies were included: two airline companies with hubs in Chicago, UAL and American Airlines; two automakers, General Motors and Toyota; and Wal-Mart Stores.

Table 3.3

Chicago Tribune Company References Grouped by Parent Company

Parent Company or Company	References n = 476	%
Google (*YouTube*)	17	3.6%
UAL (*Continental Airlines, United Airlines*)	16	3.4%
Facebook	13	2.7%
Apple	12	2.5%
Amazon.com (*Internet Movie Database*)	12	2.5%
Toyota Motor (*Lexus*)	9	1.9%
Wal-Mart Stores	9	1.9%
General Motors (*Cadillac, Chevrolet*)	9	1.9%
Sony (*Sony Pictures*)	8	1.7%
Groupon	8	1.7%
AMR/American Airlines	8	1.7%

Headquarters Location

There were too few cases to conduct an ANOVA test on the samples of company references grouped by headquarters location. Paired-sample T-tests showed the differences between company samples did not meet the standard of statistical significance ($p = .900$ for the *Mercury News-Chicago Tribune* pairing, $p = .545$ for the *Mercury News-Los Angeles Times* pairing, and $p = .270$ for the *Los Angeles Times-Chicago Tribune* pairing). However, one-sample T-tests found statistical significance in the *Chicago Tribune* sample ($p < .001$) and the *Los Angeles Times* sample ($p = .003$). The *Mercury News* sample ($p = .056$) was

just outside the 95% confidence level ($p \leq 0.05$) that is standard for research in the social sciences, but above the 90% confidence level ($p \leq 0.1$) that allows for consideration of data with the understanding that additional studies would be needed to confirm any conclusions drawn from the sample. (The test value for all one-sample T-tests in this study was designated as 0, under the assumption that only a very small fraction of the population of private-sector employment establishments, locations, or industries would be included in such a newspaper sample. In other words, although the mean number of company references for private-sector employment establishments by location or other factors would be impossible to determine, it would be approximately 0.)

Statistically significant correlations ($p < 0.001$) were found between each of the newspaper samples. The strongest correlation (73.1%) was found between the *Los Angeles Times* (Table 4.2) and *Chicago Tribune* (Table 4.3) samples, contrary to Hypothesis 2 that the strongest geographical link between companies and news coverage would be between Silicon Valley and Southern California. It is possible that this correlation could be partly the result of shared news resources by two newspapers owned by the Tribune Co. Partly consistent with Hypothesis 2, the correlation between the *Mercury News* sample (Table 4.1) and the *Los Angeles Times* sample (58.5%) was slightly stronger than the correlation between the *Mercury News* and *Chicago Tribune* samples (56.5%).

Table 4.1

San Jose Mercury News Company References Grouped by Location

Metro area or country of company headquarters	References n = 503	%
San Jose	242	48.1%
San Francisco	87	17.3%
New York	38	7.6%
Seattle	38	7.6%
Chicago	13	2.6%
Japan	10	2.0%
Los Angeles	9	1.8%
Taiwan	8	1.6%
Dallas	7	1.4%
Minneapolis	5	1.0%
South Korea	5	1.0%

Table 4.2

Los Angeles Times Company References Grouped by Location

Metro area or country of company headquarters	References n = 634	%
New York	167	26.3%
San Jose	97	15.3%
Los Angeles	68	10.7%
San Francisco	41	6.5%
Japan	40	6.3%
Seattle	31	4.9%
Chicago	29	4.6%
Detroit	21	3.3%
Dallas	15	2.4%
England	14	2.2%
Washington, D.C.	14	2.2%

Table 4.3

Chicago Tribune Company References Grouped by Location

Metro area or country of company headquarters	References n = 476	%
Chicago	88	18.5%
San Jose	59	12.4%
New York	59	12.4%
San Francisco	28	5.9%
Seattle	28	5.9%
Japan	28	5.9%
Dallas	21	4.4%
Los Angeles	16	3.4%
Detroit	15	3.2%
Minneapolis	14	2.9%

For both the *Mercury News* and *Chicago Tribune* samples, the largest number of references grouped by location were of companies with headquarters in the metropolitan area where the newspaper is published. However, for the *Los Angeles Times,* the largest number of references grouped by location were of companies with headquarters in the New York area. Even so, results for all three newspaper samples offered support for Hypothesis 1. In the *Mercury News* sample, 48.1% of company references were from the San Jose metropolitan area, and the next-largest source of company references was the adjacent San Francisco-Oakland-Fremont metropolitan area (17.3%). This is consistent with the suggestion in Hypothesis 1 that business news coverage in the *Mercury News* would be dominated by Silicon Valley's technology industries. Although New York was the largest source of company references (26.3%) in the *Los Angeles*

Times, with Los Angeles third (10.7%), that was also consistent with Hypothesis 1 that the newspaper would include substantial coverage of the Hollywood business cluster. Three of the largest media conglomerates with entertainment industry operations in Southern California—News Corp., Time Warner, and Viacom—have corporate headquarters in New York, although Disney has headquarters in Burbank, a city in the Los Angeles metro area. Company references in the *Chicago Tribune*, meanwhile, may have been less influenced by headquarters location. The Chicago metro area was the largest source of company references at 18.5%, followed by San Jose and New York.

San Jose was the second-largest source of company references in both the *Los Angeles Times* (15.3%) and the *Chicago Tribune* (12.4%, tied with New York), partly consistent with the assertion in Hypothesis 2 of a strong link between Los Angeles and Silicon Valley's technology industries and partly consistent with the suggestion in Hypothesis 3 of a strong connection between the technology industries and news organizations and readers regardless of location. However, contrary to Hypothesis 2, Los Angeles was the seventh-largest (1.8%) source of company references in the *Mercury News,* and the Seattle metro area—the location of technology companies Microsoft and Amazon.com—was as large a source of company references (7.6%) for the newspaper as New York, where three of the Big Five media companies have their headquarters.

Industries by NAICS Code

There were too few cases to conduct an ANOVA test on the samples of company references grouped by primary NAICS code. Paired-sample T-tests showed the differences between company samples did not meet the standard of statistical significance ($p = .428$ for the *Mercury News-Los Angeles Times* pairing; $p = .872$ for the *Mercury News-Chicago Tribune* pairing; and $p = .127$ for the *Los Angeles Times-Chicago Tribune* pairing). However, one-sample T-tests found that the individual newspaper samples were statistically significant ($p = .011$ for the *Mercury News* sample and $p < .001$ for the *Los Angeles Times* and *Chicago Tribune* samples).

Moderate to strong statistically significant correlations were found between the newspaper samples. The strongest correlation (66.6%, $p < .001$) was found between the *Los Angeles Times* and *Chicago Tribune* samples, contrary to the suggestion in Hypothesis 2 that the strongest link would be between the two regions in California. It is possible that this correlation could be partly the result of shared news resources within the Tribune Co. The next-strongest correlation (53.1%, $p < .001$) was found between the *Mercury News* and *Los Angeles Times* samples. Consistent with Hypothesis 2, the weakest correlation (46.6%, $p = .001$) was found between the *Mercury News* and *Chicago Tribune* samples.

Data from the Bureau of Labor Statistics showed evidence of strong employment agglomerations in Silicon Valley in technology-related industries such as computer and electronics manufacturing (NAICS code 334), information

services (519), and software publishers (5112)—and, to a lesser extent, Internet service providers, Web search portals, and data processing services (518). These four industries were among the five largest sources of company references in the *Mercury News* sample (Table 5.1). Computer and electronics manufacturing, with an LQ of 13.12 and more than 13 percent of total employment in the San Jose MSA, accounted for more than 30% of company references in the *Mercury News* sample. Telecommunications (517) was the fourth-largest source of company references in the sample. However, the Bureau of Labor Statistics reported employment data for that sector and others in the San Jose metro area as "non-disclosable." A one-sample T-test found that the San Jose sample of company references grouped by industry—condensed to exclude industries with non-disclosable employment data—was statistically significant ($p = .041$). A relatively strong 67.1% correlation ($p < .001$) was found between company references grouped by industry and the San Jose metro area location quotient for each industry in the sample. A slightly weaker 62.2% correlation ($p < .001$) was found between company references grouped by industry and industries' percentages of total employment in the San Jose metro area. Notably, the correlation between the number of company references grouped by industry and both employment factors was stronger than the 52.8% correlation ($p = .002$) between the two employment factors.

Table 5.1

San Jose Mercury News Company References Grouped by Primary NAICS Code

Primary NAICS code	References n = 503	% of references	San Jose % of employment	San Jose LQ
334 Computer and electronics manufacturing	155	30.82%	13.56%	13.12
518 Internet service providers, Web search portals, and data processing services	91	18.09%	0.61%	2.68
5112 Software publishers	62	12.33%	1.49%	6.1
517 Telecommunications	49	9.74%	N.D.	N.D.
519 Information services	27	5.37%	2.19%	16.44
523 Securities, commodities contracts, and other financial investments and related activities	19	3.78%	0.42%	0.56
221 Utilities	18	3.58%	N.D.	N.D.
454 Non-store retailers	17	3.38%	N.D.	N.D.
532 Rental and leasing services	8	1.59%	0.28%	0.59
452 General merchandise stores	6	1.19%	1.82%	0.65

Employment data for the Los Angeles metro area were available from the Bureau of Labor Statistics for every industry in the *Los Angeles Times* sample (Table 5.2). The employment data showed evidence of a strong regional business cluster in the motion picture and sound recording industries (NAICS code 512). With an LQ of 7.82, this industry sector accounted for more than 13 percent of company references in the *Los Angeles Times* sample and about 2.7% of the employment in the Los Angeles MSA. The apparel manufacturing industry, which was not among the 10 largest sources of company references (only two company references were counted) in the *Los Angeles Times* sample, had an LQ of 8.01 but a smaller percentage (about 1.2%) of metro area employment. No

other industry in the Los Angeles sample had an LQ greater than 2. A weak correlation (34.9%, p = .02) was found between company references grouped by industry and the industries' location quotients for the Los Angeles metro area. No statistically significant correlation was found between company references grouped by industries and the industries' total percentages of employment, nor between industries' location quotients and total percentages of employment in the Los Angeles MSA.

Table 5.2

Los Angeles Times Company References Grouped by Primary NAICS Code

Primary NAICS code	References n = 634	% of references	Los Angeles % of employment	L.A. LQ
512 Motion picture and sound recording industries	87	13.72%	2.72%	7.82
334 Computer and electronics manufacturing	69	10.88%	1.84%	1.78
522 Credit intermediation and related activities	53	8.36%	2.25%	0.94
336 Transportation equipment manufacturing	52	8.20%	1.31%	1.05
515 Broadcasting	50	7.89%	0.43%	1.56
518 Internet service providers, Web search portals, and data processing services	45	7.10%	0.12%	0.54
5112 Software publishers	35	5.52%	0.22%	0.88
452 General merchandise stores	29	4.57%	2.07%	0.74
517 Telecommunications	26	4.10%	0.81%	0.95
519 Information services	22	3.47%	0.21%	1.59

The Bureau of Labor Statistics reported employment data for several industries represented in the *Chicago Tribune* sample as non-disclosable. A one-sample T-test found that the Chicago sample of company references grouped by

industry—condensed to exclude industries with non-disclosable employment data—was statistically significant ($p < .001$). Only one industry, air transportation (NAICS code 481), had an LQ greater than 2, reflecting Chicago's status as a major airline hub. No statistically significant correlation was found between the Chicago sample of company references grouped by primary NAICS code (Table 5.3) and the industries' percentage of total employment, the sample of company references and industries' location quotients, nor industries' location quotients and percentage of total employment.

Table 5.3

Chicago Tribune Company References Grouped by Primary NAICS Code

Primary NAICS	References n = 476	% of references	Chicago % of employment	Chicago LQ
336 Transportation equipment manufacturing	47	9.87%	0.42%	0.33
481 Air transportation	41	8.61%	0.89%	2.1
522 Credit intermediation and related activities	39	8.19%	2.76%	1.16
334 Computer and electronics manufacturing	37	7.77%	0.77%	0.75
452 General merchandise stores	31	6.51%	2.47%	0.88
518 Internet service providers, Web search portals, and data processing services	29	6.09%	N.D.	N.D.
517 Telecommunications	24	5.04%	N.D.	N.D.
523 Securities, commodities contracts, and other financial investments and related activities	23	4.83%	1.27%	1.69
311 Food manufacturing	19	3.99%	1.36%	1
5112 Software publishers	18	3.78%	0.07%	0.3

Researcher-Designated Industry Sectors

There were too few cases to conduct an ANOVA on the samples of researcher-designated industry sectors. Paired-sample T-tests showed that the differences between the newspapers' samples of company references grouped by researcher-designated industry sectors did not meet the standard of statistical significance ($p = .930$ for the *San Jose Mercury News-Chicago Tribune* pairing; $p = .638$ for the *Mercury News-Los Angeles Times* pairing; and $p = .279$ for the *Los Angeles Times-Chicago Tribune* pairing). A one-sample T-test showed the *San Jose Mercury News* sample (Table 6.1) did not meet the standard of statistical significance ($p = .245$). However, one-sample T-tests found statistical significance in the *Los Angeles Times* sample ($p = .018$) (Table 6.2) and the *Chicago Tribune* sample ($p = .005$) (Table 6.3).

Strong statistically significant ($p < 0.01$) correlations were found between the newspapers' company reference samples. The strongest correlation (86.4%) was found between the *Mercury News* and *Chicago Tribune* samples ($p = 0.001$), followed by the correlation between the *Los Angeles Times* and *Chicago Tribune* samples (81.9%, $p = 0.002$), and the correlation between the *Mercury News* and *Los Angeles Times* samples (78.5%, $p = 0.004$). Such a result perhaps could be expected given an interest in technology news by news organizations and readers regardless of location. However, the relevance of these correlations to the three hypotheses is ambiguous, particularly given the lack of statistical significance of the *Mercury News* sample.

Table 6.1

San Jose Mercury News Company References Grouped by Researcher-Designated Industry Sector

Researcher-designated industry sector	References n = 503	%
Tech	415	82.5%
Financial	23	4.6%
Utilities	18	3.6%
Retail/wholesale	15	3.0%
Media	9	1.8%
Other	7	1.4%
Food	6	1.2%
Transportation equipment	5	1.0%
Oil	3	0.6%
Airlines	1	0.2%
Insurance	1	0.2%

Table 6.2

Los Angeles Times Company References Grouped by Researcher-Designated Industry Sector

Researcher-designated industry sector	References n = 634	%
Tech	215	33.9%
Media	150	23.7%
Financial	73	11.5%
Retail/wholesale	62	9.8%
Transportation equipment	52	8.2%
Other	25	3.9%
Insurance	16	2.5%
Food	14	2.2%
Oil	14	2.2%
Airlines	7	1.1%
Utilities	6	0.9%

Table 6.3

Chicago Tribune Company References
Grouped by Researcher-Designated Industry Sector

Researcher-designated industry sector	References n = 476	%
Tech	146	30.7%
Financial	65	13.7%
Retail/wholesale	60	12.6%
Transportation equipment	47	9.9%
Airlines	41	8.6%
Media	36	7.6%
Food	33	6.9%
Other	32	6.7%
Insurance	8	1.7%
Oil	6	1.3%
Utilities	2	0.4%

It was interesting to note that the technology sector, consistent with Hypothesis 1, by far dominated the proportion of company references (82.5%) in the *Mercury News* sample. In addition, technology was the leading sector in the *Los Angeles Times* (33.9%) and *Chicago Tribune* (30.7%) samples, partly consistent with Hypothesis 3. Media was the second-largest sector (23.7%) in the *Los Angeles Times* sample, partly consistent with Hypothesis 1. However, stronger indicators of statistical significance would have been needed to draw any relevant conclusions based on this grouping of data.

Discussion

In this study, some support for Hypothesis 1 was found. Quantitative evidence showed that the presence of regional industrial agglomerations or business clusters has been accompanied by a substantial volume of news coverage of Silicon Valley's technology industries in the *San Jose Mercury News* and of Hollywood's entertainment industry in the *Los Angeles Times*. Mixed support was found for Hypothesis 2 with evidence of a substantial volume of news coverage of Silicon Valley's technology industries in the *Los Angeles Times*. Contrary to Hypothesis 2, however, little coverage of Hollywood's entertainment industry was found in the *Mercury News*. Mixed support was found for Hypothesis 3 with evidence of a substantial volume of news coverage in the *Mercury News, Los Angeles Times* and *Chicago Tribune* of Silicon Valley technology companies, especially larger companies with reputations as experienced frame-makers such as Apple, Google, and Facebook.

The strongest such evidence was found in the samples of company references grouped by parent company and by industry as defined by primary NAICS code.

Apple, Google, and Facebook were the largest sources of company references grouped by parent company in the *Mercury News* sample, which was dominated by large technology companies. Apple, Google, and Facebook (although not necessarily in that order) also were among the 10 largest sources of company references grouped by parent company in the *Los Angeles Times* and

Chicago Tribune samples. The *Los Angeles Times* sample was led by Disney, Time Warner, and Viacom, three of Bagdikian's Big Five media conglomerates. All three companies have entertainment industry operations in Southern California and reputations as experienced frame-makers. News Corp. and two other companies represented in Southern California's motion picture industry also were among the 10 largest sources of company references grouped by parent company in the *Los Angeles Times* sample. Google, Facebook, and Apple also were among the 11 largest sources of company references grouped by parent company in the *Chicago Tribune* sample, but this list also included two airline parent companies with hubs in Chicago and a technology-related startup with headquarters in the city, Groupon.

Grouped by NAICS code, five technology-related industries, computer and electronics manufacturers, Internet services, software publishers, telecommunications, and information services, accounted for more than 76% of company references in the *Mercury News* sample. Notably, the most substantial employment agglomerations as measured by location quotient were found in Silicon Valley's San Jose metro area, including an LQ of 13.12 for computer and electronics manufacturing and 16.44 for information services. Although direct comparisons are not possible because the Bureau of Labor Statistics does not disclose proprietary employment data, San Jose had the strongest correlation between company references by industry and employment as measured both by LQ and industry percentage of total employment, based at least on disclosable

employment data. Motion picture and sound recording industries, with an LQ of 7.82 and about 2.7% of the region's labor force, led the *Los Angeles Times* sample, although apparel manufacturing—an industry with a larger LQ but smaller percentage of the regional labor force—was not represented at all among the 10 industries with the most company references. No statistically significant correlation between company references and employment was found in the *Chicago Tribune* sample. The industry with the largest Chicago metro area location quotient, air transportation with an LQ of 2.1, was the second-largest source of company references. The sample was led by transportation equipment manufacturing, an industry that includes automakers and aircraft maker Boeing, which has its headquarters in Chicago. However, the industry had an LQ of 0.33, showing a much lower proportion of employment in the Chicago area compared with the national average.

Somewhat weaker support for the hypotheses was found in the samples of companies grouped by headquarters location. The San Jose metro area was represented as either the largest source of company references in the *Mercury News* sample or at least tied for second-largest in the other two samples. New York, where headquarters are located for most of the big media conglomerates with entertainment industry operations in Southern California, was the largest source of company references in the *Los Angeles Times* sample, and Chicago was the largest source of company references in the *Chicago Tribune* sample. However, the findings are somewhat ambiguous because the San Jose sample

was below the 95% confidence level for statistical significance that is standard in the social sciences, but above the 90% confidence level. It is possible that a study with larger samples of company references in news stories would find greater support for the hypotheses.

The samples grouped by researcher-designated industry also produced ambiguous results because the *Mercury News* sample did not even meet the 90% confidence level for statistical significance. Again, it is possible that a study with larger samples would produce relevant results.

Limitations of the Study

Several potential limitations of the study may have affected the findings.

As noted above, the sample of company references in business news stories in the *Mercury News* was not statistically significant at a 95% confidence level when grouped by location and researcher-designated industry. It is possible that larger samples would have produced more statistically significant results. Although perhaps prohibitively time-consuming, full samples of company references in the three newspapers in the 12-month period would have been valid.

The Bureau of Labor Statistics employment data did not allow for direct comparisons of the potential relationship between company references and industry employment in the three metropolitan statistical areas where the *San Jose Mercury News, Los Angeles Times,* and *Chicago Tribune* are published. This is because the federal government does not disclose employment data when

it can be used to infer proprietary information such as the size of an individual company's workforce, and incomplete data sets were available for the San Jose and Chicago metro areas.

This study also did not include a framing analysis of the news stories, an evaluation of whether coverage was favorable or unfavorable to the companies, or interviews with editors or reporters at the three newspapers to determine motivations for including references to companies in their news stories.

It also was a potential limitation of the study that the *Mercury News* sample included stories that were written by the researcher.

Implications and Suggestions for Further Research

In this study, support was found for a connection between the presence of a strong regional industrial agglomeration and the content of business news coverage in large daily newspapers in those regions. Support also was found for an interest by news organizations of providing coverage of large technology companies such as Apple, Google, and Facebook regardless of location.

It was outside the scope of this study to determine whether it is good for readers and other community members to find a predominance of technology news in the *San Jose Mercury News*, a more balanced mix of coverage of the entertainment industry and other employment sectors in the *Los Angeles Times,* or the much more varied financial news coverage in the *Chicago Tribune*. It's possible that *Mercury News* editors have decided to emphasize coverage of the technology sector but are aware that with constrained resources they are

neglecting coverage of other important local business issues. Without a predominant industry, editors at the *Chicago Tribune* might lack focus for their business news coverage decisions. Further research could involve interviewing these editors about how they decide which companies to cover. It also could involve interviewing or surveying readers and other community members to determine whether these editorial decisions meet their business news needs.

In addition, further research could include larger samples of stories from similar 12-month periods in the three newspapers as well as newspapers in other large metropolitan areas with employment concentrations such as Seattle or Detroit. It also could be worthwhile to examine coverage of the technology and entertainment industries and other employment sectors with regional industrial agglomerations in national newspapers such as *The New York Times* and *The Wall Street Journal*.

Finally, it could be worthwhile to conduct a qualitative analysis of coverage in the three newspapers of the technology and entertainment industries with an emphasis on the success of message framing by large companies such as Apple, Google, Facebook, and Disney. Additional insight into the effectiveness of message framing by these companies could be gained by interviewing editors and reporters involved in business news coverage and public relations practitioners who are experienced at framing corporate messages.

Conclusion

The *San Jose Mercury News* is published in Silicon Valley, which is known for its cluster of innovative technology companies, including Apple, Google, and Facebook. The *Los Angeles Times* is published in Southern California, home to Hollywood entertainment companies owned by giant media conglomerates such as Disney. The *Chicago Tribune* is published in a metropolitan area that is one of the three largest in the country by population and an important global business center—but does not have a regional industrial agglomeration similar to Silicon Valley's technology cluster or Hollywood's entertainment industry.

In this study, business news coverage was examined in the three newspapers, recognizing—as Bagdikian (2004), Fortunato (2005), Gans (1979), and Johnson-Cartee (2005) have observed—that coverage decisions by news organizations are influenced by the communities they serve, that journalistic values can favor corporate interests, and that experienced frame-makers such as Apple, Google, Facebook, and Disney can be successful in conveying media messages. Silicon Valley and Hollywood are two of the best-known examples of regional industrial agglomerations, or business clusters, which are a powerful form of organization for the deployment of capital and labor. Silicon Valley and Hollywood have a substantial influence on the economy and culture in their regions. They also have strong geographical and business links that affect

California's economy and culture. Known for their innovation and creativity, Silicon Valley and Hollywood also have transformed the global culture.

It was not surprising, then, to find quantitative data suggesting that Silicon Valley's technology cluster was strongly reflected in business news coverage in the *San Jose Mercury News,* the region's largest newspaper. Hollywood's entertainment industry also was reflected in business news coverage in the *Los Angeles Times*—but with a larger, more diverse economy in the Los Angeles area, other employment sectors had a notable presence. In the *Chicago Tribune,* local employers were found in business news coverage, but to a lesser extent than in the *Mercury News* and *Los Angeles Times*.

All three newspapers included substantial coverage of Silicon Valley technology companies, especially three well-known innovators—Apple, Google, and Facebook—that have transformed global culture and the business models of many established companies by changing the way professionals and consumers create and disseminate media content.

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