American Communication Journal
Vol. 9, No. 4, Winter 2007

Diffusion of the Concept that "the Internet is Good" via Television: How "CNET Tech Briefs" Helped Shape American Views about the Internet

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Keywords: *Communication, CNET Tech Brief, diffusion of innovation, internet, technology, television, TV, World Wide Web*

Diffusion Theory suggests that concepts such as "the Internet is good" are diffused through society by opinion leaders, including local TV news outlets. This study takes a look at an important time in the early adoption of the Internet by U.S. society in general. In the 1990s, the Internet was used heavily by government and universities, but not as much by the public at large. Sixty-eight weeks of content analysis by students in a communication technology course revealed that the overwhelming percentage of stories was perceived as either positive (55.3%) or neutral (31.7%). One way analyses of variance revealed that stories with a negative tone featured significantly more people overall than positively oriented stories – $F(3,334) = 3.568$, $p = .014$. This appears to be a clear representation of programming designed to diffuse a concept that "the Internet is good" to the general public and may have been one of the key elements to advancing Internet use.

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Brief history of the Internet: Today, the Internet and the cyber economy in the United States have risen to meteoric heights, blazing through the much lamented but essentially

inoffensive Millennium glitch, and ultimately the much more cataclysmic "Dot Com Crash" (Zakon). In just a few short years this revolutionary concept has grown to a third generation wireless web.

The history of the Internet and World Wide Web dates back to Cold War tensions between the United States and the former Union of Soviet Socialist Republics when newly formed U. S. Advanced Research Projects Agency (ARPA) worked with the RAND Corporation to create a successful way to communicate. Concepts like the decentralized network, which could work even if several nodes were down allowed computers to be linked by telephone in ways that were once unthinkable (Gaffin).

In 1969 only connected four universities, UCLA, Stanford, University of California at San Bernadino, and University of Utah, were connected (Zakon). The Internet was born in 1983, disseminating rapidly through the early adopters of governmental and academic outlets. The National Science Foundation created NSFNET enabling linkage of mid-level nets that, in turn, connected universities, LANs, etc. Also in 1986, the first freenet -- a network designed to provide an Internet link to individuals with limited access to traditional avenues--was formed in Cleveland, Ohio and administered by Case Western University (Eddings).

In 1989, Tim Berners-Lee created the World Wide Web while working at CERN, the European Particle Physics Laboratory (Berners-Lee). The tool evolved Web pages, complete with hypertext, into rich, textured multimedia documents in the mid-1990s. Mini-applications such as hit-counters put power in web designer's hands. Advanced multimedia such as Image maps (pictures that include several embedded hyper links), and streamed audio and video plug-ins, like Macromedia's Shockwave Flash, now enhance the graphical interface with sound and motion.

With the introduction of the graphically oriented Web, the growing number of commercial on-line services, and the dissemination of the net to wider areas of society, the definition of the Internet changed dramatically making subscriptions and ads commonplace, shouldering the medium's funding (Vincent). Commercialization of the Net (1990s) allowed for an exponential growth in for-profit and subsidized sites, but the Internet could not be a self-serving channel through which messages could be sent to attract late adopters because potential users often didn't own computers or subscribe to the web. The opportunity arose for exposure through television.

The story of CNET: CNET is a non-typical combination of old and emerging media that operates a series of interwoven websites and also produces and syndicates a number of technology-related TV shows, including the 30-minute *TV Dot Com*, and CNET *Tech Briefs, a news package* ("CNET, Inc. announces"; Serwer; Zakon). The common theme in most CNET ventures is that they rate and review technology products and services (Bing). Although the business struggled financially for many years, it now appears to be extremely profitable (Serwer). The CNET family of programs and websites continues to grow including ventures into shopping sites such as Computer Shopper, and mySimon as well as XM Satellite Radio (XM Satellite Radio).

Merrill Lynch consultant, Halsey Minor came up with the concept of a business that consisted of a cable TV channel and online content about technology in 1992. Minor and partner Shelby Bonnie struggled to sell this concept in an essentially net-less world. It wasn't until 1994 that Minor was able to persuade Paul Allen to give the company $5 million on the condition that he was able to sign a distribution contract for the TV show. CNET signed a deal with USA Networks that year to air *TV Dot Com* ("CNET, Inc. announces," Serwer).

In June 1995, CNET ventured into the Internet with their CNET.com website and in 1996 the stock went public. As the Internet and its users continued to change, so did the focus of the company. Although the website was originally designed to promote TV ventures, it appeared that the television programming was geared to drive more people to the CNET website (Serwer). Successive years saw the development of a series of interlinked websites including Download.com, News.com and the Snap.com portal. All totaled, CNET operates over 11 sites offering computer information, news, shopping and search opportunities. CNET has completed agreements with a number of Internet service providers to make their websites, such as Download.com, the ISPs' default links to software and information, thus increasing click-through advertisements (Bing, "CNET, Inc. announces," Serwer).

But in order for CNET to maintain its strength in the area of online technology informer, analysts have suggested that it needed to increase "brand awareness." At the time, the CNET name may not have been known by a large enough user-group, and competitors in this arena certainly existed -- including ZDNet (now owned by CNET), PC World Online, and Tech Web (Bing). Today CNET produces a number of technology TV shows including: *The Web*, *The New Edge*, *TV Dot Com*, CNET *Central*, and the CNET *Tech Briefs* -- all focused on how new technology, especially the Internet, affect our day-to-day lives. The syndicated show *TV Dot Com* reached over 1.2 million viewers in 1996, airing on 120 local television stations ("CNET, Inc. announces," 1996). CNET *Tech Briefs* were provided free to stations that aired *TV Dot Com.* It would seem that these programs, with the apparent goal of motivating viewers to visit CNET's websites, would certainly also aid in the process of diffusing the concept that "the Internet is good."

Diffusion Theory: Diffusion theories, relatively young and not yet unified, attempt to model how new technologies and ideals move from conception, to development, early adoption, and finally widespread acceptance (Rogers). Many perspectives, hypotheses and theories reside under the "Diffusion of Innovation" umbrella (Surry). All of these research tracks stem from initial work performed by Ryan and Gross in rural sociology.

Perhaps the seminal work in diffusion research has been done by Everett Rogers. His 1960 text on the subject is now in its fourth edition. In it, Rogers synthesizes findings from well over 3000 diffusion studies to generate a theoretical framework for diffusion of innovations. His framework has four main components: the innovation itself, communication channels for disseminating the innovation's message, time involved for adoption of the innovation, and the social system within which this all occurs.

Surry and other writers have summarized the four most widely utilized theories of diffusion that are discussed in great detail by Rogers. Individual Innovativeness Theory groups

individuals into five categories ranging from innovators to laggards regarding innovation adoption. Earlier stage adopters become additions to the group of opinion leaders about a topic – additional voices to be heard in the promotion of an innovation by late adopters and laggards. Rate of Adoption Theory predicts that innovations will be adopted slowly until they hit a point of huge growth in acceptance. If this critical mass is not met, the adoption may not hold. The Innovation Decision Process Theory (Rogers) tracks the stages that a potential adopter must go through in order to adopt an innovation. Anyone who buys into an innovation must first gain knowledge of the innovation, then be persuaded, make a decision to adopt, implement the decision and finally confirm their feelings about the adoption of the innovation. Finally, Perceived Attributes Theory (Rogers) states that potential adopters look at trialability, observability, relative advantage, complexity, and compatibility to determine innovation adoption.

All of these theories of diffusion look at the adoption process from slightly different angles, but in each case, perceptions of the adopters (as well as their persuasiveness to others) are key to the development and growth of the adoption process. Rogers points out a paradox: innovation acceptance can remain concentrated in the hands of a small, wealthy, educated group – not diffusing through society at all. This can be due to a number of factors including lack of economies of scale keeping the cost of adoption high, limited interest due to little perceived value of the innovation, and even limited awareness of the innovation's existence.

Given these factors, it's not hard to see how a new medium, such as the Internet once was, might have had a hard time breaking from the confines of a commercial-free, academic-government early adopter stage into early/late majority acceptance. Recent trends have made it difficult for the web-enthusiast to adopt new hardware and/or software upgrade because they are beyond the means of the users' present computer. Like the adopters of the Net itself earlier in the decade, users face difficult decisions regarding adoption of innovations due to their limited ability to "try before you buy."

In 2004, Li utilized Rogers' diffusion approach to compare differences in adoption of cable TV shopping vs. Internet-based shopping in Taiwan. In a survey of over 1200 respondents, Li found that use of Internet-based shopping followed Rogers' diffusion model. People considered to be "innovators" by Rogers' model were more likely to shop via the Internet than were "laggards." "Popularization" is a key effect that Paul studied in the diffusion of scientific concepts. These translations of science into lay terms are familiar to most TV news viewers in the form of science and technology segments regularly covered on cable and satellite news services such as CNN and BBC. At every stage popularization, utilizing varying techniques, the idea is to "get the word out."

In reviewing three case studies in the use of "indigenous media" in the innovation process in Africa and India, Henrich has pointed out that utilization of a familiar medium to spread a new message can increase awareness and the likelihood of acceptance. It is important to utilize regular participants in the familiar medium as opinion leaders regarding the innovative concepts. Finally, it's important to be aware of the audience's culture, and needs and desires in order to effectively craft a message that will persuade them to adopt an innovation.

How could the innovators and early adopters reach the majority with their message that "the Internet is good"? The answer suggested by Henrich is media and their messages – spread by television. These would be used, as noted by Paul to popularize scientific concepts to a larger broader-based audience. The purpose of this study was to look at one 5-day/week syndicated news feature on new technology, the CNET *Tech Brief*. Based on a content analysis of the program scripts, the researcher attempted to discover whether or not this type of programming might help diffuse the concept that "the Internet is good."

Research Questions

In order to speculate on the potential diffusive value of the CNET *Tech Brief* stories, it is important to deconstruct them, reviewing their content to determine the predominant types of stories featured as well as the kinds of people who discuss the product or service highlighted. These content analysis issues lead to the first series of research questions:

1. What is the predominant direction or tone of these technology features?

2. What is the predominant topic of these technology features?

3. Do the segments primarily feature products or services that are speculative (on the drawing board), new, upgrades to what is already available, or do they simply make viewers aware of existing products and services?

4. How many people and what type are predominantly featured in these stories?

5. What is the average breakdown of interviewees in these features?
   Diffusion research suggests that the audience may accept message points of view if the sender is perceived as credible. The CNET packages, taken as a whole, may be considered the messenger, but they speak with a variety of voices. Comparing the overall tone of the story – as well as the number and types of voices in these messages – to the topic featured, is the basis of the final research questions:

6. What is the relationship between the tone of the story and the topic featured?

7. What is the relationship between the tone of the story and the "newness" of the product or service featured?

8. What is the relationship between the tone of the story and the types of people interviewed?

9. What is the relationship between the "newness" of the product or service featured and the type of people interviewed?

Method

The Tech Brief Scripts: CNET *Tech Briefs* are short feature packages usually running about two minutes long and dealing with technology topics. They have been produced since 1996 and are often offered for free to TV stations that purchase *TV Dot Com*, a 30-minute technology show created by the same producers. Most *Tech Briefs* are repackaged segments from *TV Dot Com*. From 1996 to 1997, CNET shipped stations three *Tech Briefs* per week and in 1997, they began sending five. Stations typically run the packages as a daily technology segment in one of their local newscasts.

The Database: The database for this study consisted of 68 weeks of *Tech Brief* scripts for the period from January 6, 1997 through July 8, 1998 – approximately a year and a half. (Eight weeks of scripts were not available -- the weeks beginning on: 12/30/96, 4/7/97, 4/13/97, 12/22/97, 1/5/98, 2/2/98, 2/9/98, and 2/16/98.) Scripts were obtained from a television station that airs CNET *Tech Briefs*. Permission was also obtained from CNET to utilize this database for this study. Each week's material consisted of five scripts for a total of 339 scripted *Tech Brief* segments. Scripted material included a suggested local anchor introduction and story tag, scripted reporter copy, transcription of dialog from interview subjects, suggested informational graphics and total run time of the package.

Methodology: A codebook was developed so that coders could look at each script on four separate dimensions: *direction/tone* of story, *topic* of story, type of *technology highlighted*, and *person(s) interviewed* about the topic (See Appendix A and B). Coders read the entire story about a technology or service and then decided if the tone of the presentation was "positive," "negative," "neutral," or "mixed" and whether the primary topic highlighted was "hardware," "software," "Internet," or something else. They also determined if the technology/service discussed was "new," "existing," "upgraded," or "speculative." Finally, coders checked how many times "internal experts," "external experts," "users," and "non-users" were highlighted in each script. (see Appendix A.)

Eight students in an undergraduate communication technology class analyzed 55 to 60 days (11 - 12 weeks) of scripts each. One coder double-checked 55 days (11 weeks -- from the week beginning on 03/16/98 through the week beginning 068/98) worth of scripts in order for intercoder reliability analysis to be performed. Data was scanned for analysis in SPSS PC.

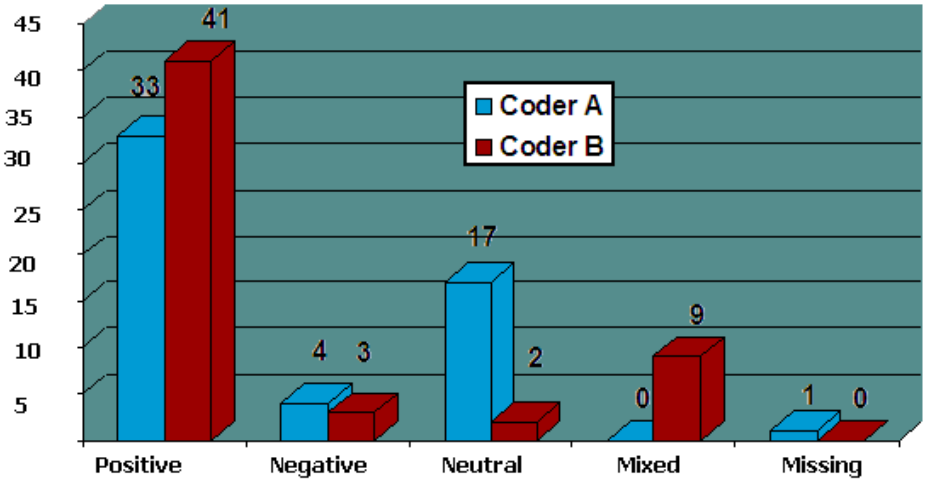
Results

Intercoder Reliability Checks: The size of the subset of data dual-coded (n = 110) did not allow for a valid measure of the association of responses between the two coders on three of the variables: "direction/tone of story," "topic of the story," and "type of technology (newness) highlighted." It is also important to note that one of the stories reviewed by "Coder A" was missing these values. Frequency analyses of the two coders' responses offers some basic interpretations of the reliability of the findings, however.

Direction/Tone of Story: Both Coder A and B suggested that the overwhelming majority of stories were positive (A: n = 33; 61.1%; B: n = 41, 74.5%) and that there were almost no negative stories (A: n = 4; 7.4%; B: n = 3, 5.5%). While this lends some support to the notion

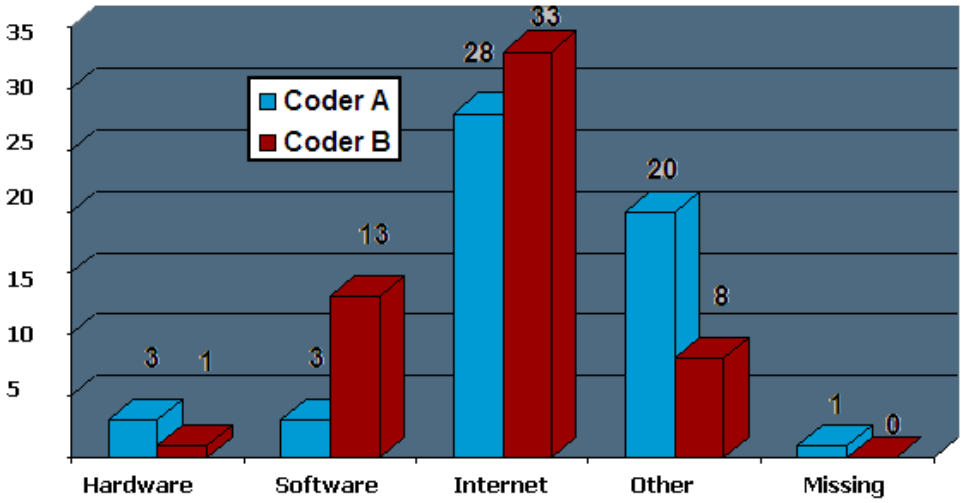
that tone has been reliably interpreted across coders, it is very important to note that there were discrepancies in the number of neutral and mixed stories, as well as the total number of stories considered positive (See Figure 1).

Figure 1: Intercoder Comparison of Story Tone



Topic of the Story: Coders seemed to have more trouble with this item – perhaps because hardware, software and the Internet are so interrelated. While both Coders A and Be felt that the majority of the stories dealt with the Internet (A: *n* = 28; 51.9%; B: *n* = 33, 60.0%), they deviated on their interpretation of what the other stories were about (See Figure 2).

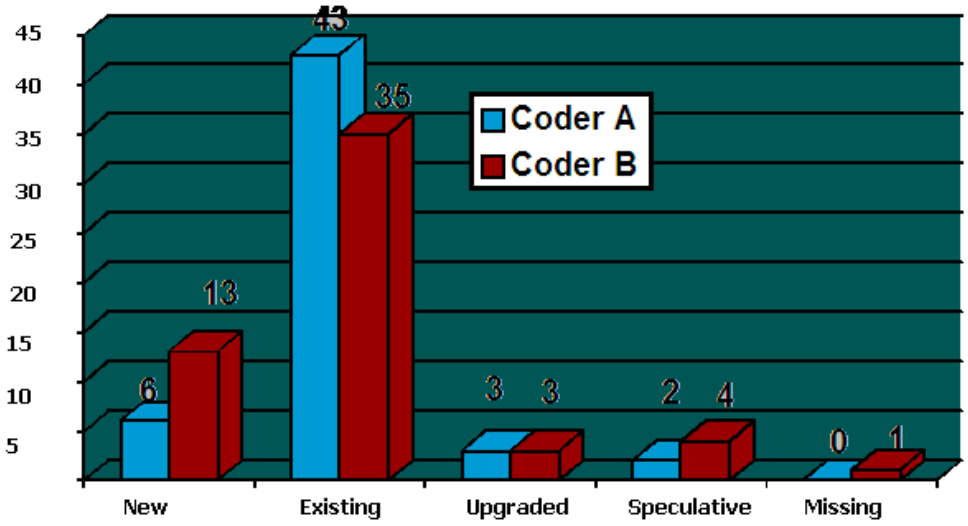
Figure 2: Intercoder Comparison of Story Topic



Type of Technology Highlighted: Although the coders had some difficulty discerning the topic of some *Tech Brief* segments, they appeared to be strongly in agreement about the "newness" of the product or service being featured. Both coders considered the overwhelming

number of stories to be about existing items (A: *n* = 43; 79.6%; B: *n* = 35, 63.6%), and were also in agreement about the number of stories that fell into the other categories (See Figure 3).

Figure 3: Intercoder Comparison of Technology Highlighted



Number and Types of People Featured: Although the sample was too small for cross-tabulation, the researcher was able to perform T-test analyses to determine whether or not there were any significant differences in Coder A and B's determination of the amount of various types of people featured in the average *Tech Brief* segment. Independent analyses suggest that there was no significant difference in the number of types of people that Coders A and B saw in the stories (See Table 1).

Table 1: Intercoder Comparison of Number and Types of People Featured*

	Coder A *Mean*	Coder B *Mean*	*t*	DF	*p*
Total All Types of People	3.327	3.200	.381	108	.70
Total Internal Experts in Story	1.855	2.109	-.814	108	.42
Total External Experts in Story	0.436	0.364	.404	108	.69
Total Users in Story	1.018	0.691	1.072	108	.33
Total Non-Users in Story	0.000	0.000	-.447	108	.66

*(Total *n* = 110. Coder A: *n* = 55. Coder B: *n* = 55)

Basic Content: In order to breakdown the structure of the *Tech Brief* segments, a series of descriptive analyses were performed. Before cases with missing values were excluded, the sample consisted of 339 stories.

RQ 1: The first research question addressed the tone of the *Tech Brief* segments. Of the 338 valid cases, frequency analysis revealed that the overwhelming percentage was perceived as

positive (*n* = 187, 55.3%). The next largest category of stories (*n* = 107, 31.7%) was neutral and less than 10% of the stories were interpreted by the coders as negatively slanted (*n* = 31, 9.2%) or as a mixture of positive and negative perspectives (*n* = 13, 3.8%).

RQ 2: The second task was to determine the breakdown of the types of stories covered. Of the 337 valid cases, frequency analysis showed the majority of the stories (*n* = 162, 48%) were determined by the coders to be about the Internet. The second largest grouping of stories was "other" – the unidentifiable (*n* = 103, 30.6%). Only a small number of stories were determined by the coders to be about computer hardware (*n* = 34, 10.1%) or software (*n* = 36, 10.7%).

RQ 3: Concerning "newness," frequency analysis revealed that the study participants coded 62% (n = 209) of the stories as existing technologies or services. The next most common type of story was about new technologies (*n* = 74, 22.0%). Upgrades (*n* = 35, 10.4%) and speculative (*n* = 19, 5.6%) products and services were a negligible percentage of the total sample.

RQ 4: About half of the *Tech Brief* segments featured either two (*n* = 86, 25.4%) or three (*n* = 88, 26.0%) people other than the reporter. Stories that featured no people other than the reporter were less common (*n* = 60, 17.7%). In the minority were one (*n* = 54, 15.9%) or four (*n* = 35, 10.3%) people in addition to the reporter, although some featured five or more people (*n* = 16, 4.7%). The mean number of people featured was 2.12.

RQ 5 and 6: Statistics included the overall quantity of people and a breakdown by type. There was an average of 1.11 internal experts in each story, .51 external experts, .43 product/service users, and less than zero non-users (*n* = 339). Internal Experts received the lion's share of airtime (52.4%) while external experts (24.1%) and users (20.8%) split the rest. Non-users, on average, received almost no airtime.

Relationships:

RQ 7 and 8: Research questions seven and eight dealt with the relationship between the tone of the story and the topic of the segment – including its newness. While tone and segment topic was un-related, Chi-squared results suggest that tone and type (newness) are related, but a measure of association suggests that this relationship is very weak at best (chi-square = 27.48, *p* = .001; lambda = .01, *p* = .438).

RQ 9: Another important consideration was how the tone of the story was related to the number and types of people featured. One-way analysis of variance suggested significant relationships between the tone of a story and the total number of people interviewed as well as the number of external experts (those unaffiliated with the company that profits from that product or service) and the number of non-users featured (See Table 2.) Negative stories (*n* = 31, *M* = 2.87) featured more individuals interviewed overall than positive stories (*n* = 187, *M* = 1.979). They also featured significantly more external experts (*n* = 31, *M* = 1.097) than positive stories (*n* = 187, *M* = .428). Additionally, negative stories featured more non-users (*n* = 31, *M* = .2903) than did positive stories (*n* = 187, *M* = <0.00).

Table 2: Oneway ANOVAs of Tone of Story by Types of People Interviewed

Types of People Considered		Sum of Squares	df	Mean Square	F	Sig.
Total all types of people	Between Groups	22.806	3	7.602	**3.568**	**.014**
	Within Groups	711.694	334	2.131		
	Total	734.500	337			
Total internal experts in a story	Between Groups	.857	3	.286	.183	.908
	Within Groups	520.519	334	1.558		
	Total	521.376	337			
Total external experts in a story	Between Groups	12.276	3	4.092	**5.377**	**.001**
	Within Groups	254.198	334	.761		
	Total	266.473	337			
Total of users in a story	Between Groups	2.495	3	.832	.774	.509
	Within Groups	358.821	334	1.074		
	Total	361.317	337			
Total of non-users in a story	Between Groups	1.837	3	.612	**6.420**	**.000**
	Within Groups	31.858	334	<. 000		
	Total	33.695	337			

RQ 10: One-way analyses of variance showed that the "type" of product or service being featured (new, existing, upgraded or speculative) was significantly related to the featuring of internal experts (those affiliated with the profiting organization) as well as the number of users interviewed (See Table 3). Stories about new products featured more internal experts (n = 74, M = 1.419) than did stories about existing services (n = 209, M = .952). On the other hand, they included far fewer users of the product or service (n = 74, M = .149) than did stories about existing technology (n = 209, M = .584).

Table 3: Oneway ANOVAs of "Newness" of Story by Types of People Interviewed

Types of People Considered		Sum of Squares	df	Mean Square	F	Sig.
Total all types of people	Between Groups	.717	3	.239	.109	.955
	Within Groups	.717	333	2.201		
	Total	733.715	336			
Total internal experts in a story	Between Groups	14.027	3	4.676	**3.076**	**.028**
	Within Groups	506.128	333	1.520		
	Total	520.154	336			
Total external experts in a story	Between Groups	.517	3	.172	.218	.884
	Within Groups	263.726	333	.792		
	Total	264.243	336			
Total of users in a story	Between Groups	12.153	3	4.051	**3.867**	**.010**
	Within Groups	348.850	333	1.048		
	Total	361.003	336			
Total of non-users in a story	Between Groups	.129	3	<. 000	.426	.735

	Within Groups	33.563	333	.101		
	Total	33.691	336			

Discussion

On the whole, CNET *Tech Briefs* from 1997-1998 appear to have been informative, predominantly positively slanted stories about the Internet and World Wide Web. Whether designed to intentionally or not, they also appear to have been excellent opinion leader messages that may have helped the majority to see the value in adopting the innovations of the Internet. Stories, especially the positively-oriented ones, were filled with internal experts and users – early adopters of various technologies that became technology opinion leaders in their praise for the innovation. The message in its entirety allowed viewers to become more knowledgeable about the technology, be persuaded to buy into the innovation, and even to see users – who had already implemented the decision to adopt – confirm their pro-innovation feelings. Finally, as structure, the *Tech Brief* stories allowed viewers to discern the trialability (and parasocially try the technology by viewing the others experiences); observe the innovation; and determine its advantages, complexity and compatibility.

Viewers who watched the CNET *Tech Briefs* within their local newscast five days a week saw repeated messages featuring various specific innovations, but as a whole painting a picture of a "good" Internet – an innovation that was relatively easy and infinitely useful to the viewer. While each individual segment might carry some weight with the viewers, taken as a whole, the message could have been a very strong suggestion to the majority of Americans that adoption of this technology would be beneficial to their lives. And viewing these segments within the context of a local newscast, hosted by anchors that the viewers "know" and trust, would only enhance the effect.

CNET *Tech Briefs* appear to have been a very effective way to drive traffic to their own website – a forerunner to how almost all TV news and entertainment programs promote their own sites. However, in its attempt to provide entertaining, informative content regarding the Internet and other technologies, it may have had a more powerful effect. CNET *Tech Briefs* – and other TV programs like it – could very well have been a primary catalyst in helping Internet adoption reach critical mass and thus usher in a communication revolution.

Works Cited

- Bing, Michelle. "CNET -- Computer News You Can Use," *Online: The Leading Magazine for Information Professionals*. September 1998: 90.

- Berners-Lee, Tim. "Bio," *World Wide Web Consortium,* Feb. 19, 2005 Cambridge, MA, USA. 19 July 2004.

- Cailliau, Robert. "A Little History." *World Wide Web Consortium.* 1995. June 17, 2004

- "CNET, Inc. Announces Second Quarter Financial Results; Company Shows 72% Increase in Revenue Over Second Quarter." *PR Newswire*. 17 October 1996. June 17, 2004

- Eddings, John. *How the Internet Works.* 2nd ed. Emeryville, CA: Ziff-Davis, 1996.
- Gaffin, Adam. "EFF's Guide to the Internet, V. 3.21." *EFF*. 1999. 19 July 2004.
- Henrich, Daniel. "Oramedia and Diffusion of Innovation: A Review of Three Case Studies in Participatory Media Development." PHD Colliquilum. Regent University. Virginia Beach, VA. 13 June 1996.
- Li, ShuChu S. "Examining the Factors that Influence the Intentions to Adopt Internet Shopping and Cable Television Shopping in Taiwan." *New Media & Society* 6.2 (2004): 173-193.
- Paul, Danette. "Spreading Chaos: The Role of Popularizations in the Diffusion of Scientific Ideas." *Written Communication* 21.1 (2004): 32-68.
- Rogers, Everett M. *Diffusion of Innovations*, 4th ed. New York: The Free Press, 1995.
- Ryan, Bryce, and Neil C. Gross. "The Diffusion of Hybrid Seed Corn in Two Iowa Communities." *Rural Sociology*, 8 (1943): 15-24.
- Serwer, Andy. "CNET: Revenge of the Preppies." *Fortune* 21 June 1999: 112-114.
- Surry, Daniel W. "Diffusion Theory and Instructional Technology." Annual meeting of the Association for Educational Communications and Technology Conference. Albuquerque, NM. February 1997.
- Vincent, Christopher R. (1995) "A Cultural Transition:The Commercialization of the Internet." *Swissnet*. 25 October 1995, Massachusetts Institute of Technology, Boston. May 7, 2004 http://swissnet.ai.mit.edu/6095/student-papers/fall95-papers/vincent-culture.html
- XM Satellite Radio. "XM Satellite Radio Dedicates Channel to Technology News Leader CNET." *XM Satellite Radio*. June 21 1999. 19 July 2004.
- Zakon, Robert H. "Hobbes' Internet Timeline v8.0" Zakon.org. 1 Jan 2005. 19 July 2004.

Appendix A: Script Coding Instruction Sheet

Please follow these instructions carefully before filling in your answers. Each script requires an answer sheet. Areas to be filled in are numbered 1-15. Instructions for each numbered segment are as follows:

1. Script #. Fill in the number of the script in the space provided, located in the top left of your answer sheet.

2. Coder #. Fill in the number you have been assigned in the space provided, located in the top right of your answer sheet.
3. Direction/Tone. Read the entire scrip carefully. Decide whether the overall message is positive, negative, neutral or a mix. Mark your answer in the space provided, located in the top right of your answer sheet.
4. Topic. Indicate whether the script deals with technology that can be classified primarily as hardware, software or Internet applications. For technology that does not fit any of these categories, mark "other."
5. Type. Mark the answer that most closely describes the technology being discussed. Note that there is only one response to this question.

6 - 15. Person interviewed. For each script, at least one person is interviewed, usually two or more. Numbers apply to each response to the interviewer's questions. For each response, mark the appropriate information about the person responding, whether it is the same person or a different person who is being interviewed. "Internal expert" means someone who is an expert on the topic and works for or is a representative of the company or institution developing or marketing the technology. "External expert" means someone who is an expert on the topic and is not affiliated with the company or institution developing or marketing the technology.

When you have finished marking your answers, turn the answer sheet and script together face down, aside from your remaining scripts. Use a new answer sheet for each script, then place the finished questionnaire, along with its accompanying script, on top of the last answer sheet and script. Continue until you have finished all the scripts assigned to you, then give the stack of completed information to your instructor. If you have questions, please raise your hand and an instructor or graduate assistant will help you. Thank you for your time and effort!