

The Status of Online Public Relations Research: An Analysis of Published Articles in 1992–2009

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This study was designed to identify trends, patterns, and academic rigor in research studies focusing on Internet-related public relations through a review of articles published between 1992 and 2009.¹ This study examined the authorship, theoretical frameworks, methodological approaches, and research topics addressed in these published articles. Key findings suggested an increasing trend in the number of published articles, a lack of applied theoretical frameworks, a dominance of quantitative research, and an emphasis on use of the Internet in public relations.

Since its introduction in the mid-1990s, the Internet has significantly influenced public relations practices. For example, Veronis Suhler Stevenson, a private equity firm, has predicted that spending on public relations in the United States will surpass \$8 billion by 2013, with much of this money going toward online projects such as social media and corporate blogs (Porter, 2010). This new medium tends to bolster stakeholders' strength and increase organizations' ability to collect information, monitor public opinion, and engage in direct dialogue with their publics regarding key issues (McAllister & Taylor, 2007; Van der Merwe, Pitt, & Abratt, 2005).

Scholars have forecasted the Internet's significant impact on public relations practices. As early as 1996, Gustafson and Thomsen predicted that public relations practitioners would spend more time communicating online with clients, the media, and customers in the near future. Findings from Ryan's (1999) survey of members of the Public Relations Society of America validated this prediction and indicated that 99% of respondents engage in significant use of the Internet for work purposes. An international survey conducted by the Institute for Public Relations in 2001 provided further evidence of this trend. Out of 276 respondents, 98% agreed that the Internet influenced how they did their jobs, and 86% indicated that this impact was positive. As Hill and White's (2000) study revealed, public relations practitioners favored the Internet's capacity to "keep stakeholders up-to-date, provide information to the media, gather

¹Please see the appendix for a bibliography of the 115 articles studied.

information about publics, strengthen corporate identity, and [facilitate] a host of other public relations functions'' (p. 46).

Due to the Internet's obvious influence, scholars have paid considerable attention to identifying the impacts of this new phenomenon on the field. For example, a group of studies have examined corporate Web site characteristics (Esrock & Leichty, 2000), have explored the Internet's potential as a relationship building and maintenance tool (Ingenhoff & Koelling, 2009; Kent & Taylor, 1998; Ki & Hon, 2006) as well as its role in crisis and image management (DiNardo, 2002; Greer & Moreland, 2003), and have investigated how various collectives, including activist groups, nonprofit organizations, and universities, use the Internet (Kang & Norton, 2004, 2006; Reber & Kim, 2006). Indeed, between 2000 and 2005, new technologies was one of the two most researched areas in public relations (Pasadeos, Berger, & Renfro, 2010).

Although the number of research studies examining Internet-related public relations has been steadily growing, a systematic literature review of the academic articles arising from these studies has yet to be conducted. Therefore, it remains unclear how research studies examining online public relations have evolved, and it is difficult to determine the stage this research has currently reached. As Tomasello (2001) noted, an examination of published articles reveals the various approaches and topics employed by researchers. In response to the rapid growth of Internet-related research in academic domains such as communication and advertising, a few studies have examined published articles of Internet-related research (e.g., C.-H. Cho & Khang, 2006 in advertising; Kim & Weaver, 2002; Tomasello, 2001 in communication). However, none of the studies have examined such articles in the public relations field. Therefore, this study aims to investigate trends in online public relations research to help public relations scholars identify directions for future research geared toward improving our knowledge of new technologies involved in public relations.

LITERATURE REVIEW

Trend Studies in Public Relations

Existing studies addressing research trends in public relations can be categorized into the following three groups: (a) citation analysis, (b) analysis of overall public relations research studies, and (c) analysis of a particular topic. The first category, which includes bibliometric or citation studies, involves an analysis of citation sources to evaluate citation activities in the public relations field. For example, Pasadeos and Renfro (1992) conducted a citation analysis study examining public relations articles published in *Public Relations Review* and three other journals² during 1975–1986. Their findings indicated that articles published early in that period tended to cite articles from other fields, especially the social sciences, whereas more recent articles featured a greater number of citations from the public relations field. They also found that the share that academician-authored articles accounted for has increased from 54% in 1975–1979 to 89% in 1985–1989, accompanied by a decrease in the number of articles written by practitioners. Based on these shifts, the researchers concluded that in recent history, public relations has been

²The other three analyzed journals were *Journalism Quarterly*, which became *Journalism & Mass Communication Quarterly* after 1994; *Public Relations Research & Education*; and *Public Relations Research Annual*, which became *Journal of Public Relations Research* after 1992.

effectively developing literature relevant to the field. In an updated study, Pasadeos, Renfro and Hanily (1999) analyzed influential authors and works in public relations scholarly literature between 1990 and 1995. They identified a continual increasing trend in the number of academician-authored articles (over 95%) as well as an emergence of younger scholars, suggesting public relations is a young, but growing social science discipline. More recently, Pasadeos, et al. (2010) expanded their earlier studies by conducting another citation study of published articles in *Public Relations Review*, *Journal of Public Relations Research*, and *Journalism & Mass Communication Quarterly* from 2000 to 2005. Their findings revealed several changes in the field, including a sharp increase in the amount of public relations research and citations from public relations journals, new scholars on the list of most published authors, the emergence of new topics in international studies, new technologies, crisis communication, and theory development, all indicating that the literature of the field has matured over the past decade.

The second stream examines public relations research articles with an emphasis on topics, methodology, and theoretical applications. For example, Morton and Lin's (1995) analysis of articles published in *Public Relations Review* between 1975 and 1993 found that professional topics constitute the most published category and technical topics are the least published. Aside from examining the topics covered in articles, Morton and Lin's (1995) study indicated "a steady increase in articles using quantitative methods" (p. 338) across the field of mass communication. Cutler's (2004) analysis of 29 case studies extracted from articles in five volumes (1995–1999) of *Public Relations Review* also addressed methodological issues. Although the case study is considered to be one of the dominant forms of research in public relations literature (Broom, Cox, Krueger, & Liebler, 1989), Cutler noted the literature's failure to link methodology choice to the theoretical issues investigated in the case studies.

The status of theory building in public relations research attracted scholars' attention following Ferguson's (1984) study, which analyzed 10 years of article abstracts published in *Public Relations Review* and concluded that public relations research has achieved minimal theory development. As a follow-up to Ferguson's (1984) study, Sallot, Lyon, Acosta-Alzuru, and Jones (2003) analyzed abstracts or articles published in three public relations journals³ and noted an increase in articles contributing to theory development from 4 percent found in Ferguson's study to nearly 20%.

The third focus of public relations literature research addresses particular topics such as relationship management and crisis communication. For example, Ki and Shin (2006) analyzed trends and patterns of academic articles featuring studies of organization–public relationships (OPR) from 1985 to 2004. They identified an increasing trend in OPR research, frequent use of surveys, and the lack of a consistent OPR definition in this area. An and Cheng (2007) examined crisis communication research articles in the *Journal of Public Relations Research* and *Public Relations Review* from 1975 to 2006. Results of their study suggested a quantitative growth in crisis communication publications but also indicated a potential lack of development in theoretical research and methodological application. The study also found that qualitative methods were more likely to be employed in crisis communication research. Recently, Kim, Avery, and Lariscy (2009) evaluated crisis response strategies in articles published between 1991 and 2009. They identified bolstering as the most often cited strategy, followed by denial.

³The study analyzed the following journals: *Public Relations Review*; *Journal of Public Relations Research*; and *Public Relations Research Annual*, which became *Journal of Public Relations Research* after 1992.

The study also indicated a lack of diversity among cases applied in the articles reviewed as well as notable gaps between theory and practice.

Although the extant literature of public relations has addressed the development of research topics such as relationship management, crisis communication, crisis response strategies, etc., scholars have paid little attention to online public relations research. To fill this gap, this study examines the trends, patterns, and academic rigor of research studies focused on Internet-related public relations. Several trend studies have indicated that public relations academic research suffers from a limited range of topics, low theoretical application levels, and unbalanced adoption of research methods. Comparing the status of studies in online public relations research with that of other topical studies, this particular study investigates research orientation, theoretical application, and methodological development in Internet-related public relations research. With this purpose in mind, we developed the following research questions:

RQ1: What is the trend of Internet-related public relations research articles published in peer-reviewed journals?

This research question aims to understand distribution of Internet-related public relations research articles in peer-reviewed journals, and changes in number of published articles from 1992 to 2009.

RQ2: What are the authorship, topics, methodological trends, and theoretical frameworks featured in Internet-related public relations research articles published in peer-reviewed journals?

Trend Studies of Internet-Related Research in Other Disciplines

Scholars in other disciplines have evaluated how Internet-related research studies have evolved. For example, Tomasello (2001) reviewed research studies addressing the role of the Internet in the communication arena in five leading communication journals between 1994 and 1999. The study revealed that although the number of Internet-related articles published per year increased over time, less than 4% of all articles dealt with the Internet, thus concluding that Internet-related research was still a new area of study in the communication field. Similarly, Kim and Weaver (2002) evaluated Internet-related articles published in 86 communication journals and Internet-related books between 1996 and 2000. They discovered that most studies analyzed the Internet itself, rather than assessing its impact or effectiveness. C.-H. Cho and Khang (2006) expanded the scope and time frame of this analysis by examining Internet-related articles published in 15 major journals focused on communication, marketing, and advertising between 1994 and 2003. Unlike Kim and Weaver's (2002) findings in the communication field, C.-H. Cho and Khang discovered that advertising scholars have emphasized Internet effectiveness.

C.-H. Cho and Khang (2006) applied four development phases of media research. Wimmer and Dominick (2006) noted that mass media research has evolved in definable steps and followed similar patterns. They proposed the following four development phases of media research: (a) The first phase refers to issues regarding the particular medium itself; (b) the second phase

covers issues related to the use and users of the medium; (c) the third phase deals with the social, psychological, and physical effects of the medium; and (d) the final phase involves medium improvement, either in its use or through technological development (Wimmer & Dominick, 2006). C.-H. Cho and Khang concluded that Internet-related research has progressed to the third phase, while still undergoing the first two phases concurrently. However, it has not yet reached the fourth phase of research development.

An analysis of the literature provides a general picture of the development of Internet research in the areas of communication, marketing and advertising, but no previous analyses have focused specifically on public relations research. To better understand whether the status of Internet research in public relations is consistent with that of research in the other three fields, we posed the following research question:

RQ3: What is the current phase of development of Internet-related research in the public relations field?

METHOD

Article Extraction

The research population for this study consisted of articles addressing online public relations research published from 1992 to 2009. We selected 1992 as the start date for this study because it was the first year of public access to the World Wide Web (Greenlaw & Hepp, 1999). Based on previous definitions of Internet-related studies (C.-H. Cho & Khang, 2006; Tomasello, 2001; Wimmer & Dominick, 2006), this study considers Internet-related public relations research as any academic article focusing on the characteristics, use, effects, and/or improvement of computer-mediated communication technologies in the public relations field. This definition broadly includes the Internet in general, as well as Internet-based services, including the World Wide Web, e-mail, blog, bulletin board system (BBS), etc.

The unit of analysis for this study was the full-length peer-reviewed article. We, therefore, excluded editorials, book reviews, magazine articles, and bibliographies from the sample. This study used a two-step process for article collection. First, three leading journals, *Public Relations Review*, *Journal of Public Relations Research*, and *Journalism & Mass Communication Quarterly* (*Journalism Quarterly* before 1994), acted as sources. We selected these publications because they are the most influential academic journals in the field of public relations (An & Cheng, 2007), and several studies have used them as sources to examine the status of public relations research (e.g., Cutler, 2004; Ki & Shin, 2006; Morton & Lin, 1995; Pasadeos & Renfro, 1992; Pasadeos et al., 1999, 2010; Tomasello, 2001). We compiled articles from the three journals manually for this research by reading titles and abstracts, and then selected those articles with titles or abstracts containing words such as *Internet*, *Web*, *electronic mail*, *new technology*, *Facebook*, *blog*, *bulletin board systems*, *database*, etc.. Subsequently, we reviewed reference lists for each article selected during the first step in an effort to locate additional articles. We obtained and reviewed any articles listed in the references with titles that included keywords identified in the first step. Between these two steps, this study selected a total of 115 articles.

Measures

We coded each article based on four broad categories: (a) general information about the article, including the name of the journal in which it was published, publication year, authorship, and institution affiliation; (b) content of the article, including research topics and research subjects (Internet segments); (c) research tools, including theoretical frameworks, research methods, samples, sampling methods, and statistics analyses; and (d) suggestions for future research.

Journal name and publication year. We coded each article by the name of the journal in which it was published, as well as its year of publication, because this information aids in determining yearly trends of online public relations research for each journal. Journal information could be useful for scholars attempting to identify appropriate venues for submitting Internet-related public relations research manuscripts.

Authorship and institution. We coded each article according to the names and affiliations of its author(s). This information is helpful for identifying individual scholars and universities involved in Internet-related public relations research and is, therefore, useful in determining the degree of variety or uniformity among contributors to this type of research (C.-H. Cho & Khang, 2006).

Research topic. We coded each article by research topic. As the analysis proceeded, we inductively developed the coding categories. We compiled detailed topical categories and then consolidated them into broader groups. Ultimately, the following 12 categories were established:

1. Interactivity (the Internet as a dialogic, equalizing, democratizing force);
2. Web characteristics (Web site content, design, planning, etc.);
3. Internet usage (how to use an Internet segment, organizational or individual use of the Internet);
4. Internet and strategic issues (issue management, crisis management, reputation management, relationship-building, etc.);
5. Political, cultural issue of the Internet (political campaigns, candidates' use of Web sites or blogs, cross-cultural analysis, etc.);
6. Education and instructional application;
7. Internet and corporate social responsibility (CSR);
8. Internet and power (practitioners' roles and decision-making power, activist groups' power, etc.);
9. Pitfalls/threats of Internet use;
10. Attitude, perception of the Internet (credibility, readers' responses, etc.);
11. Internet values and effectiveness; and
12. Theory/model building/review.

Research subject. We coded each article according to the subject under research. We developed coding categories based on Tomasello's (2001) 10 categories in Internet-based communication articles. This study established the following final coding categories: the Internet in general, Intranet, World Wide Web, e-mail, BBS, blog, Facebook, online database, forum, chat room, and social media in general.

Theoretical application. We coded each article according to whether or not it explicitly presented a theoretical framework by examining specific theories, testable hypotheses and research questions. If a specific theory was identified, the name of the theory was coded. We coded articles for existence of hypotheses and research questions, using the following four categories: research questions (RQ), hypotheses (H), RQ and H, neither RQ nor H. This information indicates the overall theoretical depth of Internet research in public relations.

Research method/data source. We coded the research method for each article for the purpose of understanding which methods were most frequently used to investigate Internet-related phenomenon in the public relations domain. A comparison of this information with extant reviews of public relations literature generates either difference or consistence. Based on Trumbo's (2004) categories, we coded each article according to its use of qualitative methods (e.g., in-depth interview, focus groups, case study, qualitative content analysis, critique/essay etc.), quantitative methods (e.g., quantitative content analysis, survey, experiment, etc.), or a mix of both qualitative and quantitative methods.

Based on the categories developed by Cooper, Potter, and Dupagne (1994), we coded the following research sample types: people (e.g., PR practitioners, journalists, students), media message (e.g., Web site), archival data, existing data, research of others (e.g., meta-analysis, literature), and/or multiple.

Sampling method/sample size. We applied two large categories of sampling methods (probability sampling vs. nonprobability) in coding. Probability sampling consisted of simple random, stratified random, systematic random, cluster random, and multistage cluster sampling; nonprobability sampling included convenience, purposive, quota, and snowball sampling. We coded sample size for the purpose of understanding the scope of online public relations research.

Statistical analysis. We coded statistical analysis based on the description of analysis provided, rather than simply reviewing tables and/or figures. In other words, we coded only statistical methods explicitly clarified in each article. C.-H. Cho and Khang (2006) demonstrated that the statistical analyses most often employed in Internet-research articles include frequency, ANOVA, regression, mean description, factor analysis, and MANOVA, and this study therefore used lists of analyses as an initial coding frame. Additional statistical analyses emerged in this particular study, however, and ultimately we used 13 categories: frequency, mean description, correlation, Chi-square, *t*-test, ANOVA, MANOVA, ANCOVA, regression, logistic regression, factor analysis, cluster analysis, and structural equation model (SEM). We reviewed statistical analysis in an effort to evaluate the academic rigor of the research, as well as the level of statistics application featured in these articles as compared to other communication studies.

Suggestions for future research. We also coded each article according to the future research directions it suggested. We included this as a coding category to provide scholars with an overview of underrepresented topics in the field that require further study.

Intercoder Reliability

To test intercoder reliability, two coders coded 12 randomly selected articles, representing 10% of the total 115 articles. Using Scott's Pi (Scott, 1955) the intercoder reliability was 1.0 for general information (journal name, publication year, author, and institution), .84 for theoretical application,

.81 for research method, .88 for data source, .86 for sampling method, .86 for statistic analysis, .82 for research subject, and .84 for research topics. Overall intercoder agreement was .89.

RESULTS

Trend of Published Articles

The first research question examined the trend of published Internet-related articles. As indicated in Table 1, a total of 115 articles drawn from 28 journals covered topics related to new technology in public relations, with 71 articles published in *Public Relations Review*; 6 articles in *Journal of Public Relations Research*; 6 articles in *Journalism & Mass Communication Quarterly*; 3 articles in *Public Relations Journal*; 2 articles each in *Electronic Journal of Communication*, *Management Communication Quarterly*, *Journalism & Mass Communication*

TABLE 1
The Number of Internet-Related Public Relations Articles in 1992–2009 (Journal-Based)

<i>Journal Name</i>	<i>Frequency</i>	<i>Percent (%)</i>
<i>Public Relations Review</i>	71	61.7
<i>Journal of Public Relations Research</i>	6	5.2
<i>Journalism & Mass Communication Quarterly</i>	6	5.2
<i>Public Relations Journal</i>	3	2.6
<i>Electronic Journal of Communication</i>	2	1.7
<i>Management Communication Quarterly</i>	2	1.7
<i>Journalism & Mass Communication Educator</i>	2	1.7
<i>Journal of Communication Management</i>	2	1.7
<i>American Communication Journal</i>	1	.9
<i>Atlantic Journal of Communication</i>	1	.9
<i>Corporate Communication</i>	1	.9
<i>IEEE Transactions on Professional Communication</i>	1	.9
<i>Information Management</i>	1	.9
<i>International Journal on Media Management</i>	1	.9
<i>International Journal of Nonprofit and Voluntary Sector Marketing</i>	1	.9
<i>International Journal of Strategic Communication</i>	1	.9
<i>Journal of Broadcasting & Electronic Media</i>	1	.9
<i>Journal of Business Ethics</i>	1	.9
<i>Journal of Computer Information Systems</i>	1	.9
<i>Journal of Computer-Mediated Communication</i>	1	.9
<i>Journal of Corporate Citizenship</i>	1	.9
<i>Journal of Interactive Marketing</i>	1	.9
<i>Journal of Website Promotion</i>	1	.9
<i>Journal of World Business</i>	1	.9
<i>Journalism Studies</i>	1	.9
<i>Management Decision</i>	1	.9
<i>Mass Communication & Society</i>	1	.9
<i>Nonprofit Management & Leadership</i>	1	.9
<i>Organization Science</i>	1	.9
Total	115	100

Educator, and *Journal of Communication Management*; and one article each published in an additional 20 journals (see Table 1 for full list). A majority (61.7%) of selected articles are from *Public Relations Review* probably because, compared to the other two journals, *Public Relations Review* published more, but substantially briefer, research articles each year (Pasadeos et al., 2010).

Overall, Internet-related public relations research has gradually increased between 1992 and 2009. As shown in Figure 1, the final 3 years under review produced the greatest number of relevant articles, with the following breakdown by year: in 2009 (17 articles), 2007 (14 articles), and 2008 (12 articles). More than half of the articles reviewed were published after 2004. To examine authorship, methodology, and theoretical framework of online public relations research, the 18 years examined were divided into three periods: 1992–1997, 1998–2003, and 2004–2009.

Authorship, Topics, Theoretical Frameworks, and Methodological Trends

The second research question examined the authorship, methodological trends, and theoretical frameworks presented in published Internet-related research articles. We elaborated findings in these three categories in the following.

Authorship and institution. To investigate the productivity and institutional affiliations of the selected articles' authors, this study adopted Pasadeos et al.'s (1999) cumulative article credit. A credit of 1.0 was assigned to each article. For a single-author article, both the author and the author's institution received a credit of 1.0. For multiauthored articles, the authors and their institutions obtained partial credit. For instance, each author received 0.5 for a two-author article, and 0.33 for a three-author article. Credit for each article was then calculated. As demonstrated in Table 2, the most frequently published author in the selected journals from 1992 to 2009 was Kaye Trammell (9 articles, 4.20 credits), followed by Maureen Taylor (7 articles, 3.00 credits), Lance Porter (6 articles, 2.08 credits), and Michael Kent (5 articles, 2.66

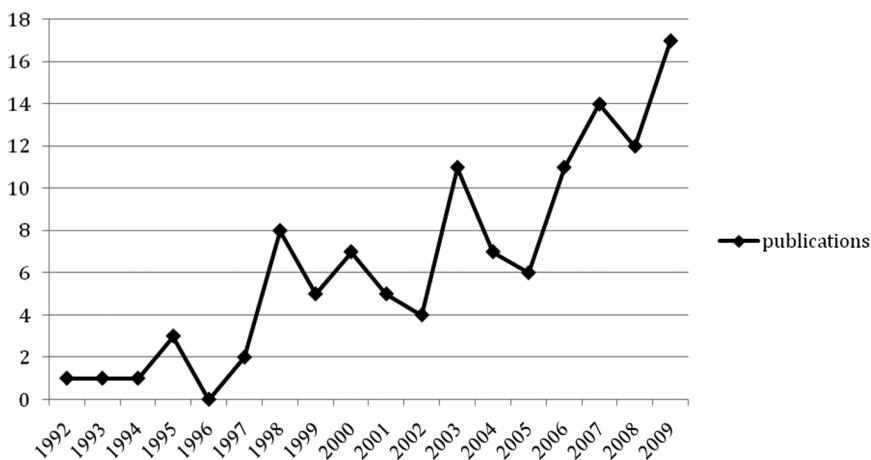


FIGURE 1 The number of Internet-related public relations articles in 1992–2009 (year-based).

TABLE 2
Most Published Online Public Relations Authors in 1992–2009

<i>Author</i>	<i>Number of Articles</i>	<i>Article Credits</i>
Trammell, Kaye D.	9	4.20
Taylor, Maureen	7	3.00
Porter, Lance V.	6	2.08
Kent, Michael L.	5	2.66
Kelleher, Tom	4	2.50
Sallot, Lynne M.	4	1.58

credits). The affiliated institution with the most publications was the University of Georgia (9.24 article credits), followed by the University of Florida (3.66 credits) and Rutgers University (3.65 credits; see Table 3).

Research topic. The topics most often researched are Internet usage ($n = 30$, 26.1%), Internet and strategic issue ($n = 21$, 18.3%), Internet values and effectiveness ($n = 14$, 12.2%), political and cultural issue ($n = 10$, 8.7%), and Web characteristics ($n = 8$, 7.0%) across the 115 articles. Five of the articles (4.3%) covered multiple topics.

The focus of Internet-related public relations research shifted over time periods. From 1992–1997, the topics most often researched were Internet usage ($n = 4$, 50.0%) and pitfalls/threats in Internet use ($n = 2$, 25.0%). During the second time period, 1998–2003, scholars paid more attention to Internet usage ($n = 12$, 30.0%) and Web characteristics ($n = 5$, 12.5%). From 2004–2009, the most widely discussed topics were Internet as strategic issue ($n = 17$, 25.4%), Internet usage ($n = 14$, 20.9%), and Internet values and effectiveness ($n = 10$, 14.9%).

Research subject. A majority of articles featured the research subjects in the World Wide Web (WWW; $n = 69$, 60.0%), followed by blogs ($n = 14$, 12.2%), and the Internet in general ($n = 13$, 11.3%). Up until 2009, only a few studies had examined Facebook ($n = 3$, 2.6%), e-mail, online database, forum, Intranet, social media in general ($n = 2$ on each subject, 1.7%), and BBS ($n = 1$, .9%). Five of the articles (4.3%) addressed multiple subjects.

Analysis of research subject trends over the years revealed an increase in Web-related research, although there was a decrease in studies examining the Internet in general, databases, and e-mail, as shown in Table 4. Specifically, the most prevalent studies topics were the Internet in general and e-mail during the period from 1992 to 1997, WWW and the Internet in general

TABLE 3
Most Published Online Public Relations Institutions in 1992–2009

<i>Institution</i>	<i>Article Credits</i>
University of Georgia	9.24
University of Florida	3.66
Rutgers University	3.65
University of Maryland	3.00
University of Alabama	2.49
Louisiana State University	2.33

TABLE 4
Research Subjects in Internet-Related Public Relations Articles in 1992–2009

	1992–1997		1998–2003		2004–2009		Total	
	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
WWW	1	12.5	27	67.5	41	61.2	69	60.0
Blog	0	0	0	0	14	20.9	14	12.2
Internet in general	3	37.5	7	17.5	3	4.5	13	11.3
Facebook	0	0	0	0	3	4.5	3	2.6
E-mail	2	25.0	0	0	0	0	2	1.7
Online database	1	12.5	1	2.5	0	0	2	1.7
Forum	0	0	1	2.5	1	1.5	2	1.7
Intranet	0	0	2	5.0	0	0	2	1.7
Social media	0	0	0	0	2	3.0	2	1.7
BBS	0	0	0	0	1	1.5	1	.9
Multiple	1	12.5	2	5.0	2	3.0	5	4.3
Total	8	100.0	40	100.0	67	100.0	115	100.0

from 1998 to 2003, and WWW and blog after 2004. The third time period (2004–2009) featured the development of research on social media, such as blogs, Facebook, and BBS.

Theoretical framework/research questions and hypotheses. Fifty-one (44.3%) of the 115 articles reviewed applied a theoretical framework. The most frequently used theories were the dialogic theory ($n = 9$, 7.8%) and the excellence theory ($n = 8$, 7.0%). Other theories applied were grounded theory, stakeholder theory, uses and gratifications theory, and contingency theory.

Applied theories varied during different times. In the years between 1992 and 1997, information richness/media richness theory was applied most frequently ($n = 2$); from 1998 to 2003, stakeholder theory ($n = 3$), dialogic theory ($n = 2$) and typology of roles for PR practitioners ($n = 2$) were the most frequently applied theories. Since 2004, dialogic theory ($n = 7$) and excellence theory ($n = 7$) were most often applied. Although the number of theoretical studies has continually increased from 1992 to 2009, the proportion of theoretical research among the total number of articles decreased after 2004 (see Table 5), indicating the still prevalent lack of theoretical application in online public relations research.

TABLE 5
Theoretical Framework and Research Questions/Hypotheses

		1992–1997		1998–2003		2004–2009		Total	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Explicit theoretical framework	Present	4	50.0	20	50.0	27	40.3	51	44.3
	Absent	4	50.0	20	50.0	40	59.7	64	55.7
	Total	8	100	40	100	67	100	115	100
Research question/ Hypotheses	Present	3	37.5	27	67.5	38	56.7	68	59.1
	Absent	5	62.5	13	32.5	29	43.3	47	40.9
	Total	8	100	40	100	67	100	115	100

In terms of theoretical application through the use of research questions and hypotheses, an overall trend indicated an increase in the number of articles having research questions and/or hypotheses over the years, as displayed in Table 5. Furthermore, the majority of articles reviewed (59.1%) presented research questions and/or generated hypotheses.

Research method/type of sample. As shown in Table 6, qualitative and quantitative research methods were balanced between the years 1992–1997. However, quantitative research has dramatically increased since 1998 ($n = 82$, 67.2%), becoming the predominant methodological approach. In recent years, a few studies have employed mixed methods as well ($n = 2$, 1.7%).

For data-gathering procedures, content analysis was used most often ($n = 49$, 42.6%), followed by surveys ($n = 23$, 20.0%), critique/essays ($n = 14$, 12.2%), experiments ($n = 10$, 8.7%), case studies ($n = 7$, 6.1%), textual analysis ($n = 5$, 4.3%), in-depth interviews ($n = 4$, 3.5%), and focus groups ($n = 1$, .9%). This study found content analysis as the most prevalent quantitative method used, with the exception of the period between 1992–1997, when research employed surveys most often for data collection. Application of more rigorous quantitative methods, like experiments, has increased since 2002, suggesting development in research methodology.

Of 115 articles reviewed, 102 identified research samples. The major sample types were media ($n = 57$, 55.9%), primarily Web sites, and people ($n = 39$, 38.2%). Studies identifying people as sample used PR practitioners most often ($n = 20$, 19.6%), followed by students ($n = 10$, 9.8%), journalists ($n = 3$, 2.9%), and other groups of people such as Web site designers, editorial workers, managers, and congressional officers ($n = 6$, 5.9%). Besides media and people, the studies used archival data ($n = 1$, 1.0%) and literature ($n = 1$, 1.0%). Four articles (3.9%) used multiple samples. As presented in Table 7, media and PR practitioners constituted the most prevalent samples across the three time periods. Interestingly, there has been an increase in studies using student samples since 2002.

TABLE 6
Research method in Internet-related public relations articles in 1992-2009

Method	1992–1997		1998–2003		2004–2009		Total		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Quantitative	Content analysis	1	12.5	12	30.0	36	53.7	49	42.6
	Survey	3	37.5	11	27.5	9	13.4	23	20.0
	Experiment	0	0	3	7.5	7	10.4	10	8.7
	Total	4	50.0	26	65.0	52	77.6	82	71.3
Qualitative	Critique/essay	2	25.0	6	15.0	6	9.0	14	12.2
	Case study	1	12.5	5	12.5	1	1.5	7	6.1
	Content analysis	0	0	1	2.5	4	6.0	5	4.3
	In-depth interview	1	12.5	2	5.0	1	1.5	4	3.5
	Focus group	0	0	0	0	1	1.5	1	.9
	Total	4	50.0	14	35.0	13	19.4	31	27.0
Mix	Multiple	0	0	0	0	2	3.0	2	1.7
	Total	8	100.0	40	100.0	67	100.0	115	100.0

TABLE 7
Data Source in Internet-Related Public Relations Articles in 1992–2009

Data Source	1992–1997		1998–2003		2004–2009		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Media	1	16.7	15	44.1	41	66.1	57	55.9
People								
Practitioner	3	50.0	10	29.4	7	11.3	20	19.6
Journalist	0	0	0	0	3	4.8	3	2.9
Student	0	0	3	8.8	7	11.3	10	9.8
Other	1	16.7	3	8.8	2	3.2	6	5.9
Archival data	0	0	1	2.9	0	0	1	1.0
Literature	0	0	0	0	1	1.6	1	1.0
Multiple	1	16.7	2	5.9	1	1.6	4	3.9
Total	6	100.0	34	100.0	62	100.0	102	100.0

Sampling method/sample size/sample source. Only 34 articles (29.6%) provided information regarding the sampling method. They used probability sampling ($n = 24$) more frequently than nonprobability sampling ($n = 10$). Specifically, the most frequently used sampling method was simple random sampling ($n = 14$, 41.2%), followed by purposive sampling ($n = 8$, 23.5%), stratified sampling ($n = 6$, 17.6%), systematic sampling ($n = 4$, 11.8%), convenience sampling ($n = 1$, 2.9%), and snowball sampling ($n = 1$, 2.9%). The application of both probability sampling and nonprobability sampling increased over the years examined.

The sample sizes featured in the articles varied depending on the research methods employed. The mean value of the sample size was 175 for survey, and the average response rate was 38%. The mean of the sample size was 179 for content analysis of organization Web sites, 16 for in-depth interviews and 170 for experiments.

In terms of sample sources for the studies, the *Fortune 500* list was the most often used source for companies ($n = 13$), for instance, in research conducting content analysis of corporate Web sites. The primary source used for the selection of PR practitioners was public relations associations' directories, such as *Public Relations Society of America* ($n = 9$), *China International Public Relations Association* ($n = 1$), and *Korean Public Relations Association* ($n = 1$). For studies examining nongovernmental or nonprofit organizations, sources included the *Prodder Directory*, *The NonProfit Times*, the *Charity Navigator* Web site, and the *Chronicle of Philanthropy*. For research focused on universities or colleges, sources included school rankings from *US News and World Reports* and *Univsource.com*. Additionally, for research concerning activist groups, in particular, environmental groups, the *EnviroLink* Web site was used most often.

Statistics. Eighty-four articles (73.0%) identified the usage of statistical analysis. They used frequency ($n = 69$, 60.0%) more often than *t*-test ($n = 20$, 17.4%), correlation ($n = 19$, 16.5%), Chi-square ($n = 18$, 15.7%), ANOVA ($n = 18$, 15.7%), mean description ($n = 16$, 13.9%), regression ($n = 10$, 8.7%), and factor analysis ($n = 9$, 7.8%). They used relatively advanced statistics, including MANOVA, ANCOVA, cluster analysis, logistic regression, and SEM less frequently.

There was a significant increase in both the number and proportion of articles using statistics between 1992 and 2009 ($\chi^2 = 1.076$, $df = 2$, $p < .01$), with significant growth seen in the final period examined from 2004 to 2009, during which time statistics were featured in more than 80% of the articles. Meanwhile, the proportion of articles without any statistical analysis decreased, though the number of actual articles during this time increased (see Table 8). From 1992 to 1997, relatively basic statistical analysis, such as frequency and correlation, was employed. More sophisticated and rigorous statistics (e.g., ANOVA, regression etc) began to emerge during the second time period, and more advanced statistics such as SEM were not utilized until the third period studied.

Suggestions for future research. With greater sophistication of research methodology and the rapid development of new technology, much of the suggested research noted in early online public relations studies has actually been conducted, but some suggestions for future research remain heuristic for scholars today. A number of articles mentioned the need for further exploration of publics' perceptions of organizations' use of the Internet, as well as the Internet's impact on these groups and their relationships. It was suggested that researchers should examine whether Internet users think having a Web site is a mark of quality for an organization, as well as whether or not a Web site truly improves an organization's image (Hill & White, 2000) and how they interpret organization's CSR practice (Tang & Li, 2009). Scholars also suggested the need to investigate stakeholders' experiences of accessing information and their feedback on corporate Web sites during crisis situations (DiNardo, 2002; Greer & Moreland, 2003). Authors noted that it would be necessary to consider publics' actual interactions with an organization via the Internet, determine publics' motivations for using the Internet, and examine whether a particular

TABLE 8
Application of Statistics in Internet-Related Public Relations Articles in 1992–2009

Statistics	1992–1997		1998–2003		2004–2009		Total	
	n	%	n	%	n	%	n	%
No statistics	4	50.0	14	35.0	13	19.4	31	27.0
Use statistics								
Frequency	4	50.0	21	52.5	44	65.7	69	60.0
t-test	1	12.5	6	15.0	13	19.4	20	17.4
Correlation	1	12.5	8	20.0	10	14.9	19	16.5
Chi-square	0	0	2	5.0	16	23.9	18	15.7
ANOVA	0	0	6	15.0	12	17.9	18	15.7
Mean description	0	0	7	17.5	9	13.4	16	13.9
Regression	0	0	2	5.0	8	11.9	10	8.7
Factor analysis	0	0	3	7.5	6	9.0	9	7.8
MANOVA	0	0	1	2.5	0	0	1	.9
ANCOVA	0	0	1	2.5	0	0	1	.9
Cluster analysis	0	0	1	2.5	0	0	1	.9
Logistic regression	0	0	0	0	1	1.5	1	.9
SEM	0	0	0	0	1	1.5	1	.9
Total	4	50.0	26	65.0	54	80.6	84	73.0
Total	8	100.0	40	100.0	67	100.0	115	100.0

TABLE 9
Phase of Internet-Related Public Relations Research in 1992–2009

	1992–1997		1998–2003		2004–2009		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Internet itself	0	.0	8	20.0	3	4.5	11	9.6
Use and users of the Internet	7	87.5	23	57.5	51	76.1	81	70.4
Effects of the Internet	0	.0	4	10.0	10	14.9	14	12.2
Theory/model building/review	0	.0	2	5.0	2	3.0	4	3.5
Multiple	1	12.5	3	7.5	1	1.5	5	4.3
Total	8	100.0	40	100.0	67	100.0	115	100.0

organization's message was transferred as intended to potential publics (e.g., Kang & Norton, 2004; Sweetser, Porter, Chung, & Kim, 2008; Taylor & Kent, 2004).

Another direction for future research focuses on relationship building, particularly the PR practitioner–journalist relationship. Some of the reviewed articles suggested exploring how journalists use public relations Web sites (e.g., Hachigian & Hallahan, 2003) and the extent to which source–reporter conflict is healthy and beneficial (e.g., Shin & Cameron, 2003).

In terms of research method, researchers pointed to a need for more qualitative research. For instance, Waters, Burnett, Lamm and Lucas (2009) noted that case studies should be conducted to provide other organizations with insights into successful and failed efforts. Focus groups and in-depth interviews were suggested to contribute to greater understanding of how organization officers perceive online fundraising strategies and their barriers to e-philanthropy (Waters, 2007). In addition, some authors suggested that research using experimental methods should attempt to recruit a diversity of participants beyond college students (Kelleher & Miller, 2006).

Phase of Internet-Related PR Research

The third research question inquires about the current phase of Internet-related research in public relations. The 12 categories of research topics were regrouped into 4 categories based on Wimmer and Dominick's (2006) four phases of media research, including the Internet itself (category 1–2), use and users of the Internet (category 3–10), effects of the Internet (category 11), and improvement of the Internet (see previous sections for more detail on each category). As presented in Table 9, more than 70% of the reviewed articles addressed use and users of the Internet ($n = 81$), 12% focused on the effects of the Internet on public relations ($n = 14$), and less than 10% examined the Internet itself ($n = 11$, 9.6%). There was no research conducted on Internet improvement. Results also suggested a decrease in research focused on the Internet itself accompanied by an increase in studies examining Internet use and its effects across the three time periods (see Table 9).

DISCUSSION AND CONCLUSION

This study was designed to examine the trends, patterns, and academic rigor of Internet-related public relations research by analyzing 115 articles published between 1992 and 2009. The

researchers paid special attention to the topics, theoretical orientation, and methodological aspects of the featured studies. In addition to providing a detailed picture of research trends, this study attempted to offer valuable insights for future research directions, which will aid in the progression of this area of research to the next level.

An analysis of the authorship of published articles indicated a wide dispersal of individual and institutional contributors, demonstrating the popularity of online public relations research studies. However, this study did identify the most productive authors across the articles reviewed, including Kaye Trammell, Maureen Taylor, Lance Porter, and Michael Kent. Among these authors, Kaye Trammell appeared on the list of most published authors for the first time, and the other three authors also appear on the list of the 33 most-published authors in general public relations research in 2000–2005, with Maureen Taylor ranked first (Pasadeos et al., 2010). However, none of these authors are featured on the lists during time period ranging from 1975–1995 (Pasadeos & Renfro, 1992; Pasadeos et al., 1999). This finding indicates that public relations research has expanded and progressed to include new scholars. The affiliated universities with the greatest number of published articles included the University of Georgia, the University of Florida, and Rutgers University, a finding consistent with previous studies. For example, the University of Georgia also topped the list of most published authors' affiliations in public relations research from 1975 to 1995 (Pasadeos & Renfro, 1992; Pasadeos et al., 1999), and the University of Florida ranked fourth in Internet advertising research from 1994–2003 (C.-H. Cho & Khang, 2006).

Other than emergence of new most productive authors, this study identified a trend toward greater theoretical rigorousness in Internet-related public relations research. The proportion of articles that explicitly mentioned or used theories in Internet-related public relations studies (44.3%) was significantly higher than the percentage of theory-based articles in Internet-related studies in communication (12.7%), advertising (20.7%), and marketing (14.0%) (C.-H. Cho & Khang, 2006). This trend reveals unequal levels of theoretical rigorousness across different fields involved in Internet-related research. This finding also indicates more theoretically rigorous studies in Internet-related public relations, identified as 4% of all studies according to Ferguson (1984) and 20% in Sallot et al.'s updated study (2003), as compared to studies in general public relations.

The most frequently employed theories in Internet-related public relations studies are the excellence theory ($n = 8$) and the dialogic theory ($n = 9$). Although a greater number of studies applied dialogic theory than excellence theory, the excellence theory ($n = 8$) is more diversely and widely applied than the dialogic theory ($n = 6$), based on the number of articles authored by scholars other than the founders of the theory. Earlier studies confirmed this high frequency of excellence theory application. For example, it has been the most frequently used theory in field scholarship over the past two decades (Sallot et al., 2003). Not surprisingly, James E. Grunig, the founder of the theory, is the most cited author in public relations articles (Pasadeos et al., 1999; Pasadeos et al., 2010).

The dialogic theory, which was posited by Kent and Taylor in 1998, specifically focuses on online communication, so it is logical that this theory would be employed often among the articles reviewed. As compared to the study by C.-H. Cho and Khang (2006), which found that no new theory had been developed to explain Internet phenomena in communication, marketing, and advertising, the development and wide application of the dialogic theory could indicate that Internet-related public relations studies are more theoretically oriented than those in other

communication fields. However, there are a couple reasons why researchers should not yet be optimistic about theoretical applications in online public relations research. First, the proportion of theoretical research decreased slightly after 2004 (50.0% in 1992–2003, 40.3% in 2004–2009). Second, a majority of Internet-related public relations studies have not applied any theory, so it can be said that a lack of theoretical frameworks is still prevalent in this field of research.

In online public relations research, imbalance exists not only in theoretical applications, but also between quantitative and qualitative methodology. Results revealed that quantitative research (71.3%) was conducted much more frequently than qualitative research (27.0%), which is consistent with the findings of Morton and Lin's (1995) study of public relations articles and C.-H. Cho and Khang's (2006). Unlike earlier studies that pointed to the case study as the dominant method in the scholarship (e.g., An & Cheng, 2007; Broom et al., 1989), content analysis was the predominant method found in online public relations research, which is consistent with the findings of earlier Internet-related research (Tomasello, 2001).

The research subject has likely influenced this trend, because the Internet is a medium open to exploration, thus content analysis could generate a broad picture of Internet use in public relations practice. However, content analysis provides little information about Internet users' perceptions. Therefore, more qualitative studies (e.g., interviews, focus groups) or other quantitative approaches (e.g., surveys, experiments) should be conducted to explore this new medium from the perspectives of publics rather than organizations. Consistent with the growth of quantitative research, especially content analysis studies, probability sampling was used more frequently than nonprobability sampling. Correspondingly, statistics were also applied more frequently.

This study also identified a diversity of topics addressed in Internet-related public relations research. Among such topics, Internet usage was most often discussed across the three time periods examined and was the most popular topic addressed in each of the time periods. Internet and strategic issue, which deals with the Internet's role in issue management, crisis management, image management and relationship building, did not attract scholars' attention until 2004. This change was probably due to organizations' recognition of the importance of favorable stakeholder relationships and the necessity for two-way symmetrical communication. This finding confirms Ki and Shin's (2006) assertion that research into OPR began in the early 2000s. In terms of research subjects, the WWW was found to be the most popular subject covered. Blog-related research has grown to become the second most prevalent subject, which is consistent with Tomasello's (2001) findings that noted the popularity of social-interaction-related topics in Internet-related communication research. The emergence of social network research has ushered in a new era of Internet-related public relations research as studies have been initiated to expand the focus beyond organizations to the interactions between organizations and their publics.

Based on the four stages of media research suggested by Wimmer and Dominick (2006), Internet-related research in public relations has not yet moved into the fourth phase (improvement of the medium), but is undergoing the first three phases simultaneously. As Wimmer and Dominick (2006) pointed out, media research phases are not linear, but are, instead, capable of overlap and simultaneous progression. Although research has been conducted to understand the effects of the Internet in public relations practice, most articles still focus on the second phase, Internet usage. This is consistent with the findings of Pasadeos et al.'s (1999, 2010) studies, which indicated that public relations research is more communicator-centered, as opposed

to audience or consumer-centered. This study refutes the findings from C.-H. Cho and Khang's (2006) study, which indicated that Internet-related research in public relations had reached the same phase as the areas of communication, advertising, and marketing. Research studies in Internet-based public relations, communication, and marketing still concentrate on the usage of this new medium, but Internet advertising research has focused on the effects of the medium. These trends indicate that Internet-related studies in public relations, communication, and marketing lag behind when compared with such advertising studies. Pasadeos et al. (2010) have noted that greater attention in public relations scholarship should be paid to audiences and stakeholders who are not only recipients of organizations' communication but active communicators themselves. Similarly, in addition to focusing on the improvement of Internet usage and effectiveness, scholars in online public relations research should expand their focus beyond organizations' or practitioners' perceptions to also include publics' experiences.

This study found that the number of articles dealing with Internet-related public relations has increased dramatically during the time period assessed, which is consistent with the findings of C.-H. Cho and Khang's (2006) study in communication, advertising and marketing. This finding indicates that, like with other communication fields, the Internet has significantly influenced public relations, and as such, scholars have made concerted efforts to keeping up with this influential new communication tool in the field. However, it should be noted that Internet-related public relations is still in its growth stage as the medium continues to evolve and more studies are conducted to keep pace with technological advancements.

Limitations

Although this study is useful for understanding the most updated picture of public relations studies related to this new medium, there are some limitations that should be considered to guide future research endeavors. First, the population of this study was limited to only peer-reviewed articles on the topic examined, which could limit consideration of diverse perspectives about the topic. Therefore, future research should include articles from industry magazines to also provide the perspectives of industry practitioners.

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APPENDIX

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