FROM PRINT TO PIXELS: EXPLOITATION OF THE INTERNET'S POTENTIAL
BY EVANGELICAL PRINT PERIODICAL PUBLISHERS

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Abstract

This study explores exploitation of three potentialities of the Internet (interactivity,

hypertextuality, multimediality) by member publications of the Evangelical Press

Association, and the extent to which degree of exploitation by a publication is related to

editorial independence and resource level. It develops and applies a content analysis

coding scheme for measuring exploitation of Internet potentialities, and presents findings

from a survey of editors. The study concludes that editorial independence is positively

related to higher levels of website interactivity and hypertextuality, and finds that higher-

resource publication websites are more likely to feature multimediality. The study

recommends steps publications can take to increase their exploitation of the Internet's

potential, within existing constraints of resources and organizational philosophy.

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Chapter 1: Introduction

1.1 Introduction

At the dawn of the 21st century, periodical publishers find themselves facing an existential challenge unparalleled in the industry's history. The rapid adoption of the Internet and the related growth of new communication technologies led to changing audience expectations and demands, and helped dismantle the economic model on which print periodical publishing had been based. Manuel Castells observed, "From the whirlwind of the dot com firms emerged a new economic landscape" (Castells, 2001, p. 66). He added, "This sociotechnical transformation permeates throughout the entire economic system, and affects all processes of value creation, value exchange, and value distribution" (ibid).

The growth of Internet-related new communication technologies is not the first technological upheaval to challenge print media. Both radio and television were seen by periodical publishers as significant competitors for audience attention and advertising dollars. But while print media learned to coexist side by side with radio and television, magazine and newspaper publishers have taken a different approach to the rapid growth of web-based communication – one that might be described as "if you can't beat 'em, join 'em." Publishers expanded their operations to include online divisions as they "sought to protect brand name and their historical specialty of gathering and disseminating news, information, and entertainment" (Lehman-Wilzig & Cohen-Avigdor, 2003, p. 91). Today's print periodical may share information through print, text on a

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website, online video, podcasts, and social media platforms such as Facebook and Twitter.

"Convergence" is the term most often used to describe this Internet-driven expansion from single-platform to multiple-platform storytelling. It may appear that "fragmentation" would be a better term for media companies pressured to spread their story-telling resources across different platforms, but this change may also be seen as a process of formerly discrete media channels coming together to form something new. As Levine and Wackman presciently noted in 1988, "With the increased demand for more and higher quality information, and with the flood of new technologies providing the ability to fulfill that demand, many of the traditional distinctions among the media no longer apply" (Lavine & Wackman, 1988, p. 19).

Different scholars apply different definitions to the word "convergence," but "the list of convergence definitions are consistent in the discussion of blending technological capabilities to deliver content on multiple platforms through computer driven distribution systems" (ibid., p. 92).

Nearly all periodical publishers have embraced convergence to some degree, but with varying enthusiasm and success. Some periodicals are diving headfirst into opportunities offered by new communication technologies, while others are hesitant to stick a toe in the water.

1.2 Purpose of the Study

This study sought to identify organizational qualities which may contribute to successful exploitation of the potentiality of new communication technologies. This dissertation modified an existing content analysis scheme for quantifying the degree to which a print periodical organization has embraced the opportunities and challenges of media convergence, and applied that modified analytical instrument to websites associated with periodicals published by members of the Evangelical Press Association (EPA), measuring the extent to which these traditional print periodical publishers have adapted to the changing media ecosystem created by new communication technologies. Each website in the chosen population was reviewed. The study then sought to identify characteristics of periodical publishing organizations that may make it more or less likely that they will take full advantage of new communication technologies.

1.3 Challenges and Opportunities

Because web-based publishing is relatively new, scholars are still developing paradigms and frameworks for understanding it. Early in the study of the Internet, communication researchers suggested viewing Internet communication in terms of five qualities: multimedia, hypertextuality, interactivity, packet-switching and synchronicity (Newhagen & S. Rafaeli, 1996). Subsequently, journalism scholars have focused on the first three of those characteristics (multimediality, hypertextuality, interactivity), using them as broad categories of analysis when examining the move of periodical publishers from print to digital (Bardoel & M. Deuze, 2001, Deuze, 2003).

Multimediality is a defining characteristic of digital media. Multimedia storytelling means that in addition to the photographs and infographics familiar to print readers, stories may be told through slideshows, interactive infographics, animations, audio, video and even interactive gaming (Kohler, 2009).

Hypertextuality refers to the creation of connections ("links") between pieces of information, either within an article or website, or to content created by other organizations.

Interactivity means that the audience is no longer passive, but is instead an active community that contributes content and interacts with content creators and other audience members, shaping a conversation that begins with an article (Pavlik, 2001, pp. 125-148).

Each of these categories presents both opportunities and challenges to traditional print media organizations.

Media professionals discovered that the digital age comes with new demands. "The online journalist has to make decisions as to which media format or formats best convey a certain story (multimediality), consider options for the public to respond, interact or even customize certain stories (interactivity), and think about ways to connect the story to other stories, archives, resources and so forth through hyperlinks (hypertextuality)" (Deuze, 2003, p. 206).

1.4 Theoretical Framework

This exploration of the extent to which print periodical publishers have embraced the potential of new communication technology will primarily rely on the diffusion of

innovation theory, particularly as it applies to the ways in which various qualities of adopters may influence their willingness to implement innovations.

This dissertation will examine the decision to adopt aspects of the digital media age, and the degree to which such decisions can be correlated with aspects of the innovation to be adopted and qualities of the consuming unit (a publishing organization). This relationship is described well by diffusion of innovation theory, and most of the research being done on print media adoption of new communication technology has used diffusion of innovation as its primary theoretical basis. Because this is the dominant theory being used in research in this area, it is an appropriate choice for this dissertation.

Perspectives from management research will also be used, including Schumpeter's conjectures on the relationship between the size and resource level of a firm and willingness to innovate (Schumpeter, 1942).

1.5 Research Questions

Drawing on a paradigm that looks at the embrace of new communication technology potential in terms of multimediality, hypertextuality and interactivity, this study evaluates the extent to which EPA member publications are exploiting this potential. Successful exploitation of potential in each area is treated as a dependent variable. The three major dependent variables in this study are the three qualities of new communication technology outlined above (interactivity, hypertextuality and multimediality). These will be measured through a content analysis of the websites of the approximately 200 member publications of EPA.

The study then examines two characteristics of the publications which may have helped or hindered the adoption of online publishing. These independent variables have to do with the media organizations themselves: level of available resources and editorial independence. Publication circulation will be used as a proxy for level of available resources. Publication purpose and ownership will be used to determine editorial independence. This study will explore two research questions:

RQ1: Are independent publications more likely to have embraced interactivity, hypertextuality and multimediality than publications that function as the official voice of an organization?

RQ2: Are high-resource publishers more likely to have embraced interactivity, hypertextuality and multimediality than publishers with fewer resources?

Specific hypotheses will be developed in a later chapter.

1.6 Justification for Study

This study contributes to the development of methods for quantifying the exploitation of new communication technology by print periodicals.

A study of print periodical migration to the world of digital communication will add to understanding of how organizations of different kinds react to disruptive technological innovation. Exploring organizational characteristics that are positively or negatively correlated with the degree to which the potential of new communication technology is being exploited will add to understanding of qualities that may contribute to successful adaptation to radical change.

This study may also help guide periodical publishers who are seeking to make a successful transition from print to web by identifying organizational characteristics that are associated with such a change.

While the questions explored in this study are not specific to the evangelical periodical publishing world, it is nonetheless a significant industry, encompassing hundreds of magazines and newspapers that reach millions of readers (Evangelical Press Association, 2012). Most of these periodicals belong to the Evangelical Press Association. Much modern journalism scholarship ignores the world of religion, but learning more about faith-based journalism has the potential to open new doors for understanding our culture. As historian George Marsden notes, "One finds organizing principles for understanding human behavior in moral visions, in worldviews, and in underlying patterns of cultural meaning. And in religion, either traditional religion or other highest commitments, one can often discover the organizing principles that tie an outlook together." (Marsden, 1990, p. 4)

Performing a census of EPA member publications and their exploitation of new communication technology potentialities during the early decades of the age of digital communication will provide a helpful baseline for future research.

In the broadest sense, this study has implications for the future of democracy itself. The role of the press in creating an informed society capable of intelligently governing itself has historically been seen as "essential to the nature of a free state" (Blackstone, 1769/1825, p. 161), and the development of online technologies raises "the

specter of radical consequences for the production and the consumption of news" (Boczkowski, 2004/2005, p. 1). John Pavlik suggests that the combination of computing and telecommunications has created a "new media system ... where the rules and constraints of the analog world no longer apply" (Pavlik, 2001, p. xii). Cass Sunstein contends that the splintering of media audiences brought about by the digital revolution may "make self-government less workable [and] create a high degree of social fragmentation" (Sunstein, 2001, p. 192). Therefore, understanding the manner in which periodical publishers cope with technological opportunities and challenges has implications for the future of democratic self-governance.

Chapter 2: Research Setting

2.1 Research Setting

This study looks at publications produced by members of the Evangelical Press Association. Members of this organization were selected for study because of the author's long-standing association with the organization, which helped secure cooperation on a number of issues, ranging from access to the membership database to securing high response rates for an online survey.

EPA members also represent a range of attributes with implications for this study's research questions. Some are for-profit while others are nonprofit. Some must generate their own operating budget while others are subsidized. Some are organizational mouthpieces, while others are independent voices. Some are outwardly focused toward people who are not presently part of the evangelical community, while others are inwardly focused on people who would identify themselves as evangelicals. Some accept advertising, while others do not. Some are regional, while others service an international audience. The significant variation among the organization's member publications provides an opportunity to test a number of hypotheses.

From Martin Luther, who called the printing press "God's highest and most extreme act of grace" (as cited in Misa. T, 2004, p. 23), to today's tech-savvy evangelicals who use smartphones to study the Bible or tweet questions during sermons (Murphy, 2011), religious motivation has driven adoption of new communication technologies for centuries. Perhaps because of their faith-based imperative to share their

religious beliefs, "evangelicals were often at the forefront of developing and using new media technologies, from the printing press to communications satellites" (Schultze, 1990, p. 13). This willingness to adopt new communication tools makes this community an ideal group to study when examining adoption of new media technologies.

The questions addressed in this study do not involve matters of faith, and the religious mission of the publications being studied should not significantly affect any of the variables of interest in this study. The question of high-resource publications versus low-resource publications has a direct counterpart in the secular publishing world, where there are periodicals with large circulations and periodicals with small circulations. The categorization of EPA members into either independent publications or publications that serve as the "official voice" of an organization is readily applicable to the secular world, where periodicals may represent a labor union, a political party or special interest group, or a nonprofit organization that is not faith-based.

Although this study does not deal with questions specific to the world of faith-based publishing, because this segment of the periodical publishing industry is seldom mentioned in scholarly literature it is appropriate to include some background information regarding the Evangelical Press Association and its members.

2.2 The Emergence of Modern Evangelicalism

Modern evangelicalism became a religious force in the United States during the 1940s. Evangelicalism can be defined as:

A movement in North American Christianity that emphasizes the classical

Protestant doctrines of salvation, the church and the authority of Scriptures, but in

the American context it is characterized by stress on a personal experience of the

grace of God, usually termed the "new birth" or "conversion." Estimates of

evangelical strength in the U.S. and Canada run as high as 50 million, making it

one of the major expressions of Christianity in North America" (Shelley, 1990, p.

413).

The core doctrines of evangelicalism were widely embraced in antebellum

America, but during the years between the Civil War and World War I, evangelicalism

"was dethroned as the reigning religious perspective of American society" (Shelley,

1990, p. 415). This was a period of substantial change for American society. Growing

immigration meant an increase in religious pluralism and a move toward urbanization.

Evolution and progressivism took hold, and seminaries turned to "higher criticism," an

approach to biblical scholarship which was seen by evangelicals as undermining a

traditional belief in the unique authority of Scripture by treating the Bible like any other

ancient text (Shelley, 1990 p. 415).

Theologically, the first three decades of the 20th century in America were

dominated by the fundamentalist-modernist controversy:

Those in traditional Protestant denominations who welcomed the fast-paced

changes in American society and tried to adapt the Christian faith to these

changes were called "modernists." They tried to retain the traditional Protestant

hold in America by modifying the traditional doctrines of the Christian faith in order to reconcile them with science, evolution and religious pluralism. The fundamentalists resisted changes in American society and defended a supernatural Christianity by emphasizing an infallible Bible and Jesus Christ as the divine savior. This threw them into conflict with American society and made them appear outdated and irrelevant" (Shelley, 1990, p. 415).

Marsden argues that the Second World War ended a period of cultural pessimism and "led not only to America's role as a world leader, but also to a widespread revival of faith in America and America's religions" (Marsden, 1990, p. 208). This created an opportunity for conservative Christians. Marsden notes, "...fundamentalists were sparking a wartime revival. In impressive youth rallies in many American cities they were filling famed sports arenas, such as Madison Square Garden, or Soldier's Field" (Marsden, 1990, pp. 216-217). Americans joined religious groups in unprecedented numbers, with memberships increasing from about half to over 60 percent of the population in the decade following the war (Marty, 1958, p. 15)

Billy Graham was among evangelicals who saw an opportunity to regain lost ground, and worked to bring the movement into the American mainstream.

Their overriding motive was to convert people to Christ, but to do this they needed to regain respectability. Graham encouraged conservative scholars, seminaries, and publications to defend the integrity of biblical revelation and oppose liberal Protestant thought, but in intellectually sophisticated ways.... The

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larger group of conservative Protestants, who still held to the traditional

fundamentals of the faith but were trying to reenter or stay in the mainstream,

came to be called "neo-evangelicals" or simply "evangelicals." (Marsden, 1990,

p. 217-218)

The evangelical movement gained cohesion and identity with the founding of the

National Association of Evangelicals (NAE) in 1942 (Cizik, 1990, p. 793). Among the

member denominations in NAE are the Assemblies of God, the Baptist General

Conference, the Brethren Church, the Christian and Missionary Alliance, the Church of

the Nazarene, the Evangelical Covenant Church, the Evangelical Free Church in

America, the International Pentecostal Church of Christ, the Mennonite Brethren

Churches USA, the Presbyterian Church in America, the Salvation Army, and many

others.

The founding of NAE, in turn, led to the founding of many other evangelical

organizations in the 1940s, among them the National Sunday School Association (1943),

World Relief (1944), the National Religious Broadcasters (1944), the Evangelical

Fellowship of Mission Agencies (1945), and the National Association of Christian

Schools (1947) (Matthews, 1992, p. 79-81).

Some of these organizations may have been created out of a sense of "isolation

and impotency on the part of [evangelical] individuals" (Matthews, 1992, p. 29). At the

organizing meeting of NAE a founder explained, "Evangelical Christianity has suffered

nothing but a series of defeats for decades. ...One by one, various forces have discredited

or attacked [evangelicals] until today many of them are on the defensive. The hour calls for [a] united forum for evangelical action" (Matthews, 1992, p. 28).

2.3 The Birth of the Evangelical Press Association

That same call would be brought to the editors of evangelical periodicals a few years later by James DeForest Murch, Ph.D., editor of the NAE magazine *United Evangelical Action*. Murch met with a handful of editors at the convention of the National Sunday School Association in the fall of 1947 and began to talk about creating an association to serve the needs of evangelical periodical editors. Murch then called together a *pro tem* committee in Chicago on May 6, 1948. Some 35 editors met at the Congress Hotel in Chicago to officially organize the Evangelical Press Association, adopt the doctrinal statement of NAE, and create a statement of purpose. A motion was made by Carl L. Howland, seconded by Dr. J.H. Walker, "that an evangelical editors association be set up. The motion was later amended to include publishers, and prevailed" (Evangelical Press Association, 1948). On April 4-6, 1949, the first annual convention of EPA met in Chicago (Evangelical Press Association, 2012, p. 12).

An EPA news release from that initial convention reports, "Editors, publishers and reporters representing 103 evangelical periodicals with a combined circulation of 4,000,000 united in Chicago on April 4, 5 and 6 to adopt a constitution and to elect first permanent officials of the new Evangelical Press Association" (Larson, 1968, p. 8).

2.4 The Evangelical Press Association Today

Today EPA continues as a professional organization for the evangelical periodical publishing industry. Its members publish some 200 periodical titles with a combined circulation of some 20 million readers (Evangelical Press Association, 2012).

Because annual dues for member publications are based on circulation, EPA collects current circulation information for all members. During the 2012 membership year, circulations for member publications ranged from 460 for *Avisio*, a small student newspaper, to 2.2 million for *Our Daily Bread*, a monthly magazine offering daily devotional articles (Evangelical Press Association, 2012).

Print publication members of EPA fall into one of 10 membership categories (see Table 1). Most categories are related to a publication's purpose, although a few categories relate to format rather than mission.

Table 1

EPA Membership Categories

Category	Description
Campus	A print publication produced by students— generally a newspaper or magazine.
Christian Ministry	A print publication that serves workers in Christian education, churches, or other ministries.
Denominational	A general print publication serving as the official voice of a sponsoring denomination.
Devotional	A print publication offering daily devotional readings and Bible studies to inspire readers.
General	A paid-circulation print publication that is not the voice of an organization or denomination.
Missionary	A print publication with a theme of evangelism ("home" and/or "international").
Newsletter	A timely print publication informing people united by interest in a subject or organization.
Newspaper	A newspaper-format print publication, generally serving a geographical area with timely news.
Organizational	The official voice of a group other than a denomination
Youth	A print publication intended for youth audiences up to college age.

The organization previously had a category for "online" publications, but has

since replaced that with digital versions of the 10 categories listed above ("Membership,"

n.d.).

EPA provides a variety of services to its members, including an annual

convention featuring training, an annual awards contest to recognize the best work being

done among member publications, a scholarship program, and advocacy regarding postal

rates for nonprofit mailers (Evangelical Press Association, 2012).

Chapter 3: Literature Review

3.1 Introduction

This study explores the efforts of traditional print media periodicals to meet the challenges of new communication technology. It draws on the well-established research tradition of diffusion of innovation, the somewhat newer field of innovation management, and the emerging field of new media studies. Ideas from diffusion of innovation theory and innovation management are used to derive testable hypotheses predicting exploitation of the potentiality of new communication technology by print periodical publishers.

3.2 Diffusion of Innovation

Understanding why and how new ideas take hold and spread is an area of interest that may be as old as invention itself. Formal academic study of the diffusion of innovation dates to French lawyer and judge Gabriel Tarde, a pioneer of sociology and social psychology, who observed social trends through the cases that came before him, and gathered his observations in an influential 1903 book titled *The Laws of Imitation*. His goal, he said, was to "learn why, given one hundred different innovations conceived at the same time – innovations in the form of words, in mythological ideas, in industrial processes, etc. – ten will spread abroad while ninety will be forgotten" (Tarde, 1903/ 1969, p. 140).

Tarde's work foreshadowed that of scholars who would explore the same questions with more quantitative approaches to research. He posited an S-shaped curve that would describe the rate of adoption of a new idea over time, and identified the

crucial role of the acceptance or rejection of a new idea by opinion leaders (although he did not use that term).

In modern scholarship, diffusion of innovation theory can be traced to a landmark study of hybrid seed corn use among Iowa farmers. The 1943 study by Bryce Ryan and Neal C. Gross attempted to explain why some farmers adopted hybrid seed corn while others did not. Ryan and Gross developed an adoption theory which identified five significant stages in the adoption process: awareness, interest, evaluation, trial and adoption (Ryan & Gross, 1943).

Diffusion theory was expanded by Everett M. Rogers, whose book *Diffusion of Innovations* applied diffusion theory to a wide range of fields, including communication. Rogers identified five categories of adopters: innovators, early adopters, early majority, late majority, and laggards. Rogers also identified attributes of innovation, including relative advantage, compatibility, complexity, trialability and observability. He suggested that four major elements of the diffusion process are innovation, communication channels, time and social system (Rogers, 1962/2003).

Diffusion itself comprises four key elements of social change:

- The innovation itself, an idea that is seen as new by people who are making a decision about adopting it.
- The channel of communication through which information about the innovation is shared. Interpersonal communication is seen as particularly effective in persuading individuals to accept new ideas being adopted by others like them.

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- Time plays several roles, including the time between hearing of an innovation and adopting it, the speed with which an innovation spreads, and the timing of the adoption decision relative to similar decisions by others.
- The social system is a group within which the innovation spreads (Rogers, 1962/ 2003).

Greatly simplified, diffusion theory as put forth by Rogers says that decisions to adopt (the process by which innovation is diffused) are influenced by a variety of factors. Some of these factors are extrinsic, related to the innovation itself (relative advantage, compatibility, etc.) while others are intrinsic, related to the consuming unit (education, social class, risk tolerance, etc.).

Rogers concluded that while early adopters do not differ from late adopters in age, early adopters are likely to have more years of formal education, higher literacy, higher social status, and more upward mobility. Rogers found that early adopters tended to have larger-sized units (farms, schools, companies, etc.) than late adopters, establishing a relationship between resource level and likelihood to adopt innovation. He also concluded that early adopters tend to be less dogmatic and have a more favorable attitude toward change than do late adapters, which establishes a relationship between freedom to make independent decisions and likelihood to adopt innovation. (Rogers, 1962/2003).

In this study, the extrinsic factors related to exploiting the potential of the Internet (such as relative advantage) are nearly identical for all of the publications studied, so the

focus will be on intrinsic factors which vary from one organization to another (resource level and degree of editorial independence).

The unit of analysis in diffusion theory is the consuming unit. This is often an individual, but may also be a household, and a number of studies have used an organization as the unit of analysis. For instance, Jane Singer studied four newsrooms to discover how journalistic organizations make decisions about adopting elements of media convergence (Singer, 2004). Barbara Wildemuth used the diffusion model to study adoption of computing applications by departments (Wildemuth, 1992). Organizational factors contributing to or detracting from adoption of innovation is the focus of the 1973 book *Innovations and Organizations* (Zaltman, Duncan, & Holbek). One approach to diffusion study in the field of mass communication looks at implementation of information systems within an organization (Saga & Zmud, 1994).

Studying adoption of innovation at the organizational level introduces additional dimensions to the analysis. Rogers (2003) identified the five stages in the organizational adoption process:

- Agenda-setting -- Organizational problems that create a perceived need for innovation are identified.
- Matching -- A problem is fitted with an innovation.
- Redefining/restructuring -- Both the innovation and organizational structures are modified to accommodate one another.

- Clarifying – The relationship between the organization and the innovation is defined in greater depth.

- Routinizing -- The innovation becomes an ongoing part of the organization, and loses its identity as an innovation.

When looking at the adoption of digital technology by mass media organizations, Rogers' five-stage process can be seen as beginning with the agenda-setting stage in the mid-1990s, when media organizations considered the implications of the rapid adoption of the personal computer and the birth of the commercial Internet. The matching stage in media organizations involved developing online divisions, either within the existing staff structure or as independent business units. When the dot-com bubble burst in 2001 this led to a time of redefining and restructuring, as revised revenue expectations led media organizations to cut staff in online divisions. Overall, the industry may now be in a clarifying stage as organizations take a more considered approach to colonizing the digital realm, including the emergence of platform-agnostic storytellers through cross-training of staff, and the search for viable business models. The final stage, routinizing, will come about after organizations successfully identify the best practices to bring them into the digital future (Lawson-Borders, 2003).

The literature on diffusion of innovation provides insight into questions about who will decide to use a new technology and to what extent, and also into how that decision will affect performance and productivity. The theory of diffusion of innovation

is well-established, and frequently forms the basis of investigations into characteristics of organizations and individuals relevant to their decisions to adopt innovations.

3.3 Innovation Management

While many studies of diffusion of innovation focus on individual actors, the field of management research includes a rich tradition of study related to organizational decisions to adopt innovations. However, innovation management is still a relatively new field of study, with no dominant theory and little widespread agreement among scholars with regard to what organizational qualities support successful innovation.

In general, this study takes an approach strategic management theorist Lucy Küng describes as "rationalist" (Küng, 2008), meaning it looks at whether a change has taken place in media and what factors may have contributed to that change.

Economist Joseph Schumpeter, who popularized Karl Marx's idea of creative destruction and applied it to economic innovation, initially postulated that small businesses were more likely to innovate (due to their greater flexibility), but later changed his view and believed that larger companies were more likely to innovate (due to their greater access to resources). Schumpeter did not extensively develop this theory, but his identification of a possible relationship between innovation and such intrinsic organizational factors as flexibility and organizational size directly informs this study (Schumpeter, 1934).

Other management theorists have noted that certain organizational characteristics may make an organization more or less open to either incremental or radical innovation.

For instance, Abernathy and Clark's analysis of innovation in the automobile industry noted that existing organizational competencies may make a company more or less willing to accept radical change (Abernathy & Clark, 1985). While stable capabilities may make an organization less willing to acquire the new capabilities needed to compete in a changed environment (Leonard-Barton, 1992), major technology-driven changes can require existing companies to adopt dramatically different strategies and acquire new knowledge and capabilities (Tushman & Anderson, 1986). For periodical publishers, "the adherence to traditional journalistic values associated with print culture has limited … capacity to innovate and adapt to a changing technological environment" (Siles & Boczkowski, 2012, p. 1378). In general, the freedom with which an organization is able to break with its past and adopt new ideas seems to be a significant factor in the likelihood that an organization will embrace innovation. The reverse also seems to be true: organizational constraints on decision making are likely to slow the acceptance of innovation.

The idea of incremental versus radical innovation is applicable to the study of periodicals' utilization of the potential of digital communication. Some publications have accommodated the digital age in a very incremental way by simply posting existing print content online (perhaps even as a simple PDF document), but others have taken a much more radical approach, using the Internet for brand extension by creating a chain of branded websites loosely related to the print product (if at all) with independent identities and a significant amount of unique content.

Additionally, the relationship between organizational structure and technological change has been the subject of a great deal of study, and a positive correlation between autonomy and innovation has been identified. C.G. Gilbert from the Harvard Business School compared the print and online operations of U.S. newspapers and found that organizations which granted autonomy to their online operation saw much higher degrees of innovation (Gilbert, 2006). Burns and Stalker (1994) suggest that "organic" structures (with low levels of centralized control and more informal roles) were more likely to foster innovation than bureaucratic "mechanistic" structures.

In classic diffusion theory, attributes which may influence adoption of innovation include factors tied to the consuming unit making an adoption decision (such as education and economic status), and factors tied to the innovation itself (such as complexity and trialability). At the mass media organization level, Lawson-Borders alliteratively suggests that relevant attributes include communication, commitment, cooperation, compensation, culture, competition and customer (Lawson-Borders, 2003, p. 94).

The demographic characteristics of top management team members has been studied as a variable in organizational openness to change. Wiersma and Bantel (1992) suggest that "a team's demographic composition is a key indicator" of receptivity to change.

Pablo Boczkowski's landmark study of innovation in online newspapers, *Digitizing the News*, identified a number of relevant organization-level attributes

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contributing to willingness to innovate, including organizational structure, representations of users (a term he uses to describe the way journalists think about their role as it relates to their audience, and about their readers), and work practices (Boczkowski, 2004).

While the field of innovation management is still maturing, the general principle of searching for connections between organizational qualities and willingness to adopt new ideas is a foundational insight that informs this study.

3.4 New Media Studies

Before the rise of the Internet, mass media relied on print and analog broadcast technologies. The emergence of new digital communication technology has fueled a rapid transformation of media. Media technology researcher W. Russell Neuman noted, "We are witnessing the evolution of a universal interconnected network of audio, video, and electronic text communications that will blur the distinction between interpersonal and mass communication and between public and private communication" (Neuman, 1991, p. 12).

Neuman predicted that new communication technologies would have a number of significant effects:

- Change the social meaning of geographic distance.
- Increase the number of channels of communication, and the speed and capacity of those channels.
- Create the potential for media to be increasingly interactive.

- Allow the creation of new forms of communication through interconnection and overlapping of previously discrete media channels (Neuman, 1991).

Scholars have taken various approaches to operationalizing aspects of this concept of "migration," "convergence," or "embrace of new communication technologies."

An early call for communication researchers to study the Internet focused on five defining qualities of Internet communication that might offer fruitful study: multimedia, hypertextuality, packet-switching, synchronicity, and interactivity (Newhagen & S. Rafaeli, 1996). Packet-switching and synchronicity have received relatively little scholarly attention in mass communication research.

Packet-switching is the technological mechanism through which encoded information is routed through various pathways of the Internet, a process that is generally invisible to the user. In packet-switching, a digital file is broken into smaller packets, each containing a portion of the original file plus information needed to reassemble the file. The benefit of this approach to data transmission is that "packet-switching bypasses traditional bandwidth and format limitations" (Bates & Albright, 2006, p. 429). The packet-switching nature of Internet communication has significant implications for policy, since it means no single pathway can be used to control Internet communication. This is by design, since the Internet has its roots in a communication system created by the military to withstand nuclear attack (Rheingold, 1993). Packet-switching also enables the creation of peer-to-peer networks that facilitate illegal sharing of copyrighted media materials while eluding control, a practice with implications for mass media.

The concept of synchronicity, as applied to the Internet, has to do with whether communication is taking place in "real time" (synchronously) or whether participants in a communicative act are separated by time (asynchronous communication). Internet communication by media organizations is overwhelmingly asynchronous, with audience members consuming information on their own schedule at some point after it is posted. While a few media organizations have sponsored real-time "chat rooms" to discuss the news, asynchronous comment systems are the norm for online interaction with audience members.

The other three defining qualities of Internet communication (interactivity, hypertextuality and multimediality) have drawn considerably more attention from mass media scholars.

To a limited degree, interactivity is a quality of traditional media as well as new communication technology. Print periodicals have long published letters to the editor, and the talk radio is a format built on interaction with audience members. However, the opportunities for interaction offered by the web are so expansive as to constitute a different mode of communicating with the news audience: as active media consumers rather than passive (Pavlik, 2001, pp. 125-148). In fact, some have proposed that "audience" may no longer be the correct term, and "high-end users" may be a more accurate way to conceptualize consumers of online mass media content (Pryor, 2002).

Interactivity is the quality of online media which allows people to not only receive information, but also to disseminate it, thus facilitating association (Kopper,

Kolthoff, & Czepek, 2000, p. 509). Massey and Levy (Massey & Levy, 1999) suggested that interactivity in online media production is manifested in four primary ways: complexity of available choice, responsiveness to users, facilitation of interpersonal communication, and ease with which information can be added. Deuze translated those four dimensions into three design features that can be used by news websites: navigational interactivity which allows the user to navigate in a structured way through a site's content, functional interactivity which allows the user to participate in content creation by interacting with other users or with the producers of web content, and adaptive interactivity in which a site "remembers" user preferences and adapts itself to each site visitor (Deuze, 2003, p. 214).

Research on audience reception of online news sites suggests that when more opportunities for interactivity are available, users feel more involved – even if they do not take advantage of those interactive features themselves (Shyam Sunda, 2000). New media scholar An Nguyen has called the preservation of the "we publish, you read" mindset "the biggest mistake traditional newspeople have made online" (Nguyen, 2008, p. 97).

Hypertextuality involves the interlinking of information on the web. Deuze (2003, p. 212) notes that "hyperlinks – can refer internally (to other texts within the text's domain, 'on-site') or externally (to texts located elsewhere on the Internet, 'offsite')." He continues, "These are two quite different types of hypertextuality, as offsite linking opens up new content, and on-site linking in fact could lead to a downward spiral of content."

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The literature on hyperlinking suggests that "few sites actually offer extensive offsite hyperlinks" (Deuze, 2003, p. 212). One source notes, "Many news sites have yet to take advantage of this aspect of online journalism that sets it apart from all other media. Some see it as a competitive issue and a mistake to send someone away from their site" (Wilkinson, Grant, & Fisher, 2009, p. 40).

Multimediality refers to ability of web content "to display graphics alongside text, to run sound and video embedded in a document or linked through Internet connections" (Walther, Gay, & Hancock, 2005, p. 633). Print periodicals have long used photographs to illustrate stories, but the Internet opens the door to mixing text with video, audio, animation and more.

Studies of multimediality in print-associated websites find that bandwidth, copyright (for externally produced multimedia) and production costs (for internally produced multimedia) are structural factors limiting the significant development and deployment of multimedia content (Deuze, 2003, p. 212). Successful integration of multimedia in a traditional media organization may require the development of a different newsroom culture (Carr, 2002).

A more detailed categorization was proposed by Fernando Zamith (Zamith, 2008). In addition to interactivity, hypertextuality and multimedia, Zamith's coding scheme includes immediacy (how recently the information is updated), ubiquity (content available in multiple languages), memory (searchable archive of past content),

personalization (customization of content for individual users) and creativity

(exploitation of Internet potentialities not covered elsewhere in the coding scheme).

While there seems to be widespread agreement regarding core potentialities of

online periodical publishing, there is as yet no widely accepted approach to measuring the

degree to which a given periodical is exploiting that potential.

3.5 Exploitation of Web Potentiality

Several scholars in the field of new media studies have begun to explore the

extent to which traditional media industries are exploiting the potential of new

communication technologies.

A foundational study by Tanjev Schultz in 1999 found that media organizations

were not effectively exploiting the interactive nature of the Internet, with many providing

only token interactive options (Schultz, 1999).

Building on the work of Schultz, Fernando Zamith examined cyberjournals in

Portugal, and found very low percentages of use for a variety of Internet potentialities,

including interactivity (17%), hypertextuality (9%), and multimediality (18%) (Zamith,

2008).

Mark Deuze noted that "few sites actually offer extensive offsite hyperlinks" and

that "very few websites in fact employ multimedia. He also noted that mainstream news

sites "operate on the level of internal hypertextuality (offering few links pointing

outwards) with mainly *navigational* interactivity (most news sites do not even offer their

reporters' email addresses, let alone mailto: links)" (Deuze, 2003, pp. 212-215).

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An Nguyen argues that when it comes to embracing the promise and peril of new technologies, media organizations have been driven by fear, and this fear has acted as both an accelerator and a brake. While noting that fear of being left behind stimulated the migration from print to web, Nguyen notes, "The imperative to protect the old and the uncertainties resulting from this unprepared migration have generated online news artifacts which fall short of their potential, with unique aspects such as multimedia and participation opportunities remaining a luxury which characterizes mainstream news sites" (Nguyen, 2008, p. 92).

How well print media organizations are exploiting these potentialities of the web is the focus of this study.

3.6 Research Questions

This study's three-part conceptualization of the potentialities of digital media communication for periodical publishers (interactivity, hypertextuality, multimediality) is grounded in the emerging field of new media studies as outlined above.

Taken together, diffusion of innovation theory and innovation management studies form a basis for the investigation of this study's research questions:

RQ1: Are independent publications more likely to have embraced interactivity, hypertextuality and multimediality than publications that function as the official voice of an organization?

RQ2: Are high-resource publishers more likely to have embraced interactivity, hypertextuality and multimediality than publishers with fewer resources?

Rogers noted the linkage between resource level and innovation, but acknowledged that the resulting cause-and-effect question was not easily answered. "Do innovators innovate because they are richer, or are they richer because they innovate?" he asked (Rogers, 1962/2003, p. 288). He added, "Some new ideas are costly to adopt and require large initial outlaws of capital. Only the wealthy units within a system may be able to adopt these innovations." This study will explore the linkage between resource level and exploitation of web-based potentialities which require a commitment of resources.

Rogers also noted that ideological flexibility (as opposed to dogmatism) was linked to innovation. This study will explore the idea that the editorial flexibility made possible by independent status gives certain publications an advantage when it comes to pursuit of innovations that require a surrendering of some level of editorial control by the media outlet.

As noted earlier, Schumpeter initially believed small businesses were more likely to successfully innovate due to greater flexibility (Schumpeter, 1934), but later came to believe that larger organizations were more likely to innovate due to their higher resource levels (Schumpeter, 1942). This study examines both propositions. It suggests that independent publications are more likely to exploit certain potentialities of the Internet than are official publications which have less flexibility due to organizational constraints. It also suggests that publications with greater access to resources are more likely to exploit Internet potentialities which require investment in new skills and technology.

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3.7 Independent Variables

The primary independent variables being measured are resource level and editorial independence.

Resource level is conceptualized as "availability of staff and fiscal resources to support the mission of the publication." Operationally, it is measured through the circulation of a periodical.

The *Oxford Dictionary of Marketing* explains, "The circulation number remains one of the main measures of the success of newspapers. The reason for this is that the circulation number is directly linked to advertising rates: the greater the circulation to an identifiable audience, the greater the advertising rate that can be charged" (Doyle, 2011).

The circulation of a publication is a suitable proxy for level of resources available to a publication for several reasons. For paid-circulation periodicals, circulation translates directly into revenue: subscription revenue, single-copy sales revenue, or both. For periodicals that carry advertising, higher circulation justifies higher advertising rates. Even for periodicals that do not charge for subscriptions or accept advertising, circulation is a reflection of the size of the donor base supporting the periodical's publisher.

Editorial independence is a complicated concept, since any media organization may feel beholden to stockholders, advertisers or public sentiment, regardless of the extent to which it is ostensibly independent. For purposes of this study, editorial independence is conceptualized as the freedom a publication's staff members have to take

positions and cover stories without concern for how their decisions will reflect on any organization other than the publication itself.

Periodicals were classified as "independent" or "official." By "official," this study means that the purpose of a periodical is to act as the official voice of an organization. The term "independent" is used for a publication that exists on its own, apart from any sponsoring organization whose primary purpose is not media creation. Operationally, this was determined based on EPA membership type, ownership and stated purpose.

The framework of this study looks at two broad classes of publications (official vs. independent) in terms of level of organizational resources available) to create four adoption contexts (see Table 2).

Table 2

Adoption Contexts

Official / Low Resource	Independent / Low Resource
Official / High Resource	Independent / High Resource

3.8 Dependent Variables

This study conceptualizes exploitation of the potentialities of the Internet in three ways: interactivity, hypertextuality, and multimediality.

Interactivity is conceptualized as a feature or features or websites which encourage members of a website's audience to interact with content creators or with subjects of the stories on the site, and the ability of audience members to interact with the site by adding their own content. Embracing the interactive nature of new communication technologies can lead to both financial and philosophical challenges. Encouraging audience participation requires the ability to accept a loss of control and a significant change to the traditional gatekeeping role of the media. Moderating user-created content consumes staff time. Interactivity opens the door to creating a more personal connection with audience members, and this also consumes staff time, which has fiscal implications.

Hypertextuality is conceptualized as the extent to which the content of a site is linked to related content, either on the same site or on external sites. Fully embracing hypertextuality requires a willingness to cede control of one's audience. Hypertextuality lets media organizations connect audience members with a broad range of resources, but at the risk of losing audience to competing sites. Exploiting this potentiality of the web also requires staff time, since material to be linked must be identified and vetted, the links must be created, and each link needs to be periodically verified to avoid the problem of "dead links" that point to a resource that has been moved or deleted.

Multimediality is conceptualized as the extent to which a website goes beyond the print and static images typically found in printed periodicals to embrace other types of media, including audio, video and animation. Embracing the multimedia storytelling capability of new communication technology requires new skills, perhaps new staff, and

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new resources. Multimediality lets a media organization tell a story using the platform or platforms best suited to a particular story, but doing so often requires new equipment and new personnel, both of which have financial implications.

These three dependent variables were operationalized through application of a content analysis coding scheme which classified features of a website and translated them into categories relevant to the research (see Appendix B). The development of that scheme is discussed in chapter four.

3.9 Hypotheses

This study will test two predictions related to the adoption of new communication technology by religious periodicals.

Hypothesis 1: Organizations that are the official voice of a denomination or ministry will be less likely to embrace the interactive and hypertextual nature of new communication technology than organizations that are independent of any such organization, while editorial independence will have relatively little relation to embrace of multimediality.

This prediction is based on the observation of new media scholars that both interactivity and hypertextuality involve a surrendering of control on the part of a communicator. Official publications are, by definition, under the editorial control of their parent organization, and have a built-in obligation to support the work and views of a larger organization. It is believed that this organizational constraint will make them less willing to surrender control of content on their websites. As embrace of multimediality

does not necessarily involve a surrendering of control, it is anticipated that any relationship between editorial independence and multimediality will be comparatively small.

>*Hypothesis 2:* Larger organizations with more resources will be more likely to
>embrace the multimedia storytelling nature of new communication technology,
>while resource level will have comparatively little relationship with interactivity
>and hypertextuality.

Adding multimedia content such as video, audio and animation often requires the addition of equipment and personnel, and this hypothesis is based on the assumption that high-resource organizations will be more likely to have access to those necessary resources. The linkage between availability of resources and willingness (or ability) to innovate is well established in the literature. Although embrace of interactivity and hypertextuality require some staff time, these Internet potentialities are not nearly as resource-intensive as multimediality, and for that reason it is anticipated that the relationship between resource level and hypertextuality and interactivity will be comparatively small.

Taken together, these predictions suggest that well-resourced publications backed by a large denomination or ministry will have digital presences that make effective use of the multimedia capabilities of the web while adhering to a one-way communication model, while smaller independent organizations will make limited use of multiplatform

storytelling on their own but will be much more willing to embrace a multidirectional communication flow in the digital world.

The anticipated relationship between these variables can be illustrated as a grid (see Table 3).

Table 3
Anticipated Relationships

		Editorial independence	
		Low	High
Resources	Low	Limited interactivity and hypertextuality Limited multimedia use	Extensive interactivity and hypertextuality Limited multimedia use
	High	Limited interactivity and hypertextuality Extensive multimedia use	Extensive interactivity and hypertextuality Extensive multimedia use

3.10 Other Questions

In addition to the content analysis, a survey of editors of EPA member publications was conducted to gather information relevant to some additional questions raised by a review of the literature.

Rogers observed that early adopters tended to have higher levels of education. To apply that idea to EPA publications, the survey asked for the education level of the primary decision maker for the periodical's web presence.

The age of an organization has been studied as a contributing factor in openness to innovation (Goode & Stevens, 2000); the survey gathered information on the age of the website, the age of the sponsoring publication, and the age of the parent organization.

Because circulation is only one possible measure of resource level, the survey gathered additional data related to this concept, including staff size. Organizational size has consistently been found to be positively correlated with innovation (Rogers, 1962/2003, p. 409), and staff size may also be a reflection of resource level.

The relationship between print staff and online staff has been identified as a factor contributing to successful exploitation of web potentialities (Boczkowski, 2004/2005); the survey included a question about distribution of web-related work among print and web staff.

Because the potential for increased profit is among the incentives for adopting an innovation, the survey also gathered data related to profitability, including whether the website was expected to be financially self-sufficient, whether the related print publication was subsidized, and whether the publication's website sought to generate revenue through advertising sales, product sales, or by charging audience members for access to content.

Chapter 4: Content Analysis

4.1 Content Analysis

This chapter discusses the method used to generate the content analysis data which were used to determine the extent to which various periodicals were exploiting the potentialities offered by the Internet.

Mass communication researchers often use content analysis to investigate portrayals embedded in public and mass-mediated texts, such as speeches and newspaper articles. Content analysis has been defined as "a research technique for the objective, systematic and quantitative description of the manifest content of communication" (Berelson, 1952, p. 18), and as "a research method that uses a set of procedures to make valid inferences from text" (Weber, 1990).

Berelson (1952) notes that content analysis can be used to compare levels of communication. For this study, content analysis was used to record the presence or absence of website characteristics that contribute to levels of interactivity, hypertextuality and multimediality.

This chapter will present the research questions and hypotheses to be explored, subject selection, development of a coding scheme, data collection, findings, and a discussion of how those findings relate to this study's research questions.

4.2 Publication Selection and Classification

To determine the extent to which various periodicals were exploiting the potentialities offered by the Internet, the web presence (or lack of same) for each Evangelical Press Association member publication was reviewed.

The membership database of the Evangelical Press Association was obtained with the approval of the organization's board of directors (Evangelical Press Association, 2011). The database included extensive information about each member publication, including circulation, ownership, stated purpose, extensive contact information, and URL associated with the publication.

EPA's membership categories have been expanded in recent years to include digital publications and other content-rich websites. Many of these are associated with a print publication member. Digital EPA member publications that have no direct connection with a print publication were excluded from this analysis, since the purpose of this study is to explore the exploitation of web potentialities by print publications. *The Banner*, a student publication produced by California Baptist University, was also excluded because its website was offline during the analysis period. In all, 194 periodicals were included in the study (see Appendix A). Because the total number of print periodical members is relatively small, a census of the population was performed rather than a sampling.

The editorial independence of publications was determined through examination of their self-chosen EPA membership category, ownership, and statement of purpose.

"Organizational" and "denominational" publications were all classified as "official,"
since representation of another organization is central to their purpose. Regional Christian
newspapers connected with the Association of Christian Newspapers (a semi-autonomous
group within EPA) were classified as "independent," because ACN membership criteria
exclude church-owned or ministry-owned periodicals. Student newspapers were
classified as "independent"; even though these are technically published by colleges, their
editorial staffs generally operate independently, and colleges are reluctant to take
editorial control out of student hands because such a decision puts the college in the
position of assuming legal liability for content of the publication (Student Press Law
Center, 2010). For other publications, the ownership and purpose statement were
examined and a determination of official/independent status was made on the basis of
that information. Of 194 publications evaluated, 49 (25 percent) were classified as
independent (see table 4).

Table 4

Editorial Status by Membership Category

Category	Official publications	Independent publications	Total
Campus	0	14	14
Christian Ministry	13	3	16
Denominational	35	0	35
Devotional	9	0	9
General	11	8	19
Missions	15	1	16
Newsletter	9	3	12
Newspaper	6	20	26
Organizational	36	0	36
Youth	11	0	11
Total	145	49	194

Although EPA member dues are based on the circulation of a publication, a few publications had no circulation figure listed in the database. These gaps were remedied through email and telephone contact with editors of those publications.

Circulations of EPA publications studied range from a low of 700 to a high of 2.2 million. Average circulation is 56,335, but that figure is inflated by a few high-circulation

periodicals. Only two publications in the study had circulations of 1 million or more, and

only four had circulations of 500,000 or more. The circulation values of the population

are positively skewed (see Table 5 and Figures 1 and 2).

Table 5
Circulation Descriptive Statistics

Descriptives	Statistic	Std. Error
Mean	56,335.02	13,142.41
Median	15,927.00	
Std. Deviation	183,052.57	
Minimum	700	
Maximum	2,200,000	
Range	2,199,300	
Skewness	9.32	.175
Kurtosis	101.72	.347
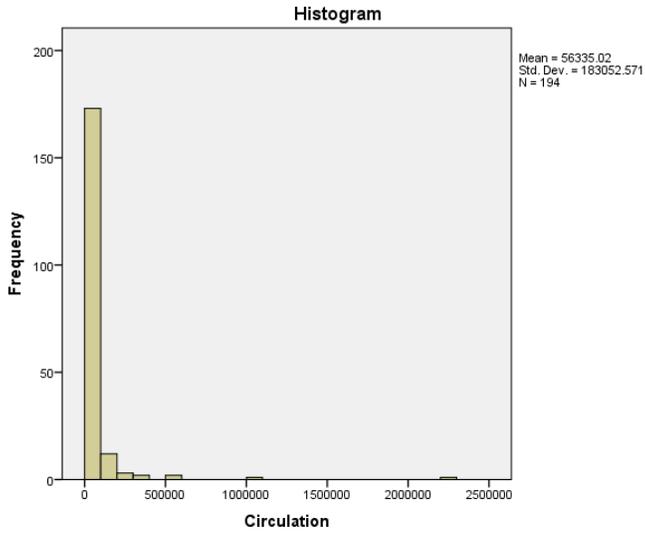
Figure 1. Circulation Frequency Distribution
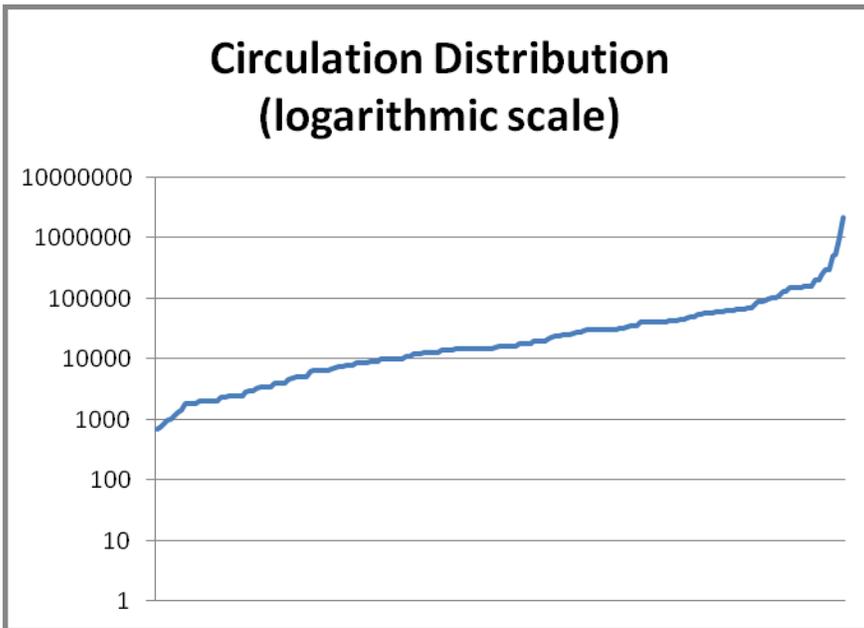
Figure 2. Circulation Distribution (logarithmic scale)

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Using the mean circulation of 56,335 as a dividing point would place about 21 percent of the publications in the "high resource" group, with the remaining 79 percent in the "low resource" group. The median circulation is 15,927; because of the positive skewness of the population this is a more representative figure for a typical member publication.

Both approaches are problematic. Using the circulation mean as a dividing point for low and high resource levels results in a publication with a circulation of 55,000 being classified as "low-resource," while a publication with a very similar circulation of 57,000 is classified as "high-resource." Using the circulation median presents an even more pronounced problem, leading to the identification of a publication with a circulation of 15,854 as "low resource" and a publication with a circulation of 16,000 (less than 1 percent more) as "high resource." For this reason, it may be misleading to divide publications into simple "high resource" and "low resource" groups by mean or median circulation. Segmenting publications into five groups by circulation will provide greater insight into the role resource abundance plays in successful exploitation of Internet potentiality, while reducing the effect of significant outliers. Therefore, publications were rank ordered by circulation and divided into five "resource level" groups, with the lowest 20 percent by circulation in category one, the next 20 percent in category two, and so on.

While independent publications could be found at every circulation level, they were unevenly distributed by circulation, appearing more frequently at lower resource levels (circulation) than at higher levels (see Table 6 and Figure 3). The relationship

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between editorial independence and resource level among EPA member publications

showed a substantial negative correlation ($r = -.234$, $p < .01$).

Table 6

Independence by Resource Level

Resource	1	2	3	4	5
Official publications	22	30	27	30	36
Independent publications	17	9	11	9	3
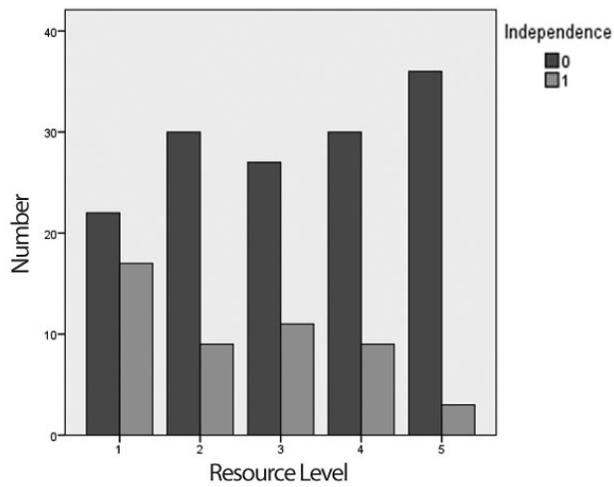
Figure 3. Independence by Resource Level

(The reason for this uneven distribution of independent publications toward the lower end of the circulation scale is beyond the scope of this study, but the author believes it is related to publication finances. Without the financial support of a parent organizations, independent publications often rely on advertising for a substantial portion of their operating revenue. Evangelical publications have historically been unsuccessful at attracting large mainstream advertisers, such as Ford or McDonald's, which are able to pay the higher page rates for advertising commanded by mass-circulation periodicals. Instead, evangelical publications rely on assembling a niche audience that appeals to niche advertisers; such advertisers pay a higher cost-per-thousand for audience members, but the resulting page rates are still low enough to fit the budgets of these niche advertisers. In this way, the circulation of independent evangelical periodicals may be self-limiting due to willingness of niche advertisers to pay higher rates per thousand to reach a smaller audience, and the unwillingness of the same publications to pay the much higher rates that a mass-circulation publication would command. This is merely speculation, but may merit study in the future.)

Because editorially independent publications are disproportionately located toward the low end of the circulation spectrum for EPA publications, the number of cases in each of the four adoption contexts specified above varies significantly (see Table 7).

Table 7

Number of Cases per Adoption Context

Official / Low Resource – 60 cases	Independent / Low Resource – 36 cases
Official / High Resource – 85 cases	Independent / High Resource – 13 cases

4.3 Coding Scheme Development

This study looks at the degree to which new communication technologies are adopted. The question is not simply, "Does the organization have a website?" but rather "How much of the potential of new communication technology is the organization exploiting?"

While this is a more complex question, it can be reduced to a series of binary data points, such as presence or absence of user-generated content, presence or absence of various forms of multimedia, etc. Following the practice of previous studies that included a content analysis of websites (see for example Yimbo, 2011; LaPorte, Demchak, de Jong, & Friis, 2000; Moon, 2002) this study analyzed websites by coding for the presence or absence of various items.

Tanjev Schultz developed a grid for measurement of website interactivity (Schultz, 1999), and his grid has been used in a number of other studies. His approach

was expanded in a coding scheme developed by Fernando Zamith (2008), and that scheme served as the inspiration for the scheme used in this study.

Zamith's coding scheme records the presence or absence of various features, and weights certain items to reflect the extent to which they are connected with the quality being measured. For instance, Zamith's coding scheme gives one point to a site that allows moderated user comments, but two points to a site that allows unmoderated comments (a practice which requires a greater relinquishment of control by the site owner).

As noted earlier, Zamith's scheme covers a number of website characteristics beyond the three dependent variables being explored in this study. However, Zamith has acknowledged a problematic "proximity between some elements of analysis of the different potentialities" in his coding scheme (Zamith, 2008, p. 2). More significantly for this study, some of the attributes Zamith coded for are not uniquely characteristic of web-based communication. For instance, "immediacy" is a quality of broadcast media, "ubiquity" as conceived by Zamith is a quality possessed by any print periodical that is produced in more than one language (as is the case with some EPA publications), and "creativity" seems to be used as a catch-all category to protect the coding scheme from being made obsolete by unforeseen technological developments.

To focus on the three dependent variables of interest selected for this study, Zamith's coding scheme was reduced to items involving interactivity, hypertextuality and multimediality. This revised scheme was applied to 10 percent of the subject pool (20

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sites), and the resulting data were reviewed for item validity and usefulness, with an eye toward further simplification of the scheme.

An initial item was added to measure the presence or absence of a website devoted to the publication. Surprisingly, some publications had no web presence, while others were mentioned only minimally on a website devoted to their parent organization. Because this study is designed to examine the degree of exploitation of web potentiality by print periodicals, publishers with no web presence related to their magazine, newspaper or newsletter were scored "0" in all categories.

Zamith's items "E-mail address or contact form of some journalists" and "E-mail address or contact form of all journalists" were combined into a single item measuring the presence or absence of personal email addresses for staff members. In part, this reflected the difficulty in identifying "all journalists" with a periodical since most publication websites reviewed did not include a complete masthead.

The items "E-mail address of some article authors" and "E-mail address of all article authors" were also combined. The reluctance or willingness of an independent author to include their email address does not necessarily reflect a publication's approach to interactivity, and it was determined that treating "some" and "all" separately on this item reduced its validity as a measure of periodical policy.

Four items regarding discussion forums and chat rooms (with and without journalist participation) and an additional item regarding blogs or wikis were all reduced to a single item measuring the presence or absence of a chat room, discussion forum, user

blog or wiki. None of the sites reviewed during the initial application of Zamith's coding scheme had any of these features, and it was determined that combining these items and weighting the resulting item heavily would fulfill the same purpose as coding each of the original items.

Two items regarding user polls and surveys were combined due to their similar nature, as were two items related to a user's ability to rate or vote on articles.

In the area of hypertextuality, Zamith's original scheme included 17 items relating to different kinds of links. These were combined and reduced by eliminating Zamith's distinction between "extra-textual" and "intra-textual" hyperlinks, and by combining items related to links to various kinds of media. While Zamith's scheme gave higher weight to intratextual links than to extratextual links, an emerging body of research suggests that intratextual links impose a higher cognitive burden on readers, thus reducing comprehension and recall of the material (Carr, 2011). A move toward extratextual links may not mean a rejection of the Internet potential related to hypertextuality, so much as a growing awareness of its proper use.

In the area of multimediality, Zamith's original scheme had separate items for "video without sound" and "video with sound." These were combined for simplicity, and because of the lack of silent videos in the initial websites reviewed.

Finally, although Zamith's coding scheme makes no specific mention of social media, two items were added to capture something about a publication's approach to social media. One item reflects whether the site provides links to a publication's social

media accounts (such as Facebook and Twitter) while the other records the availability of social media recommendation links for content on the site. The former item was added to the "interactivity" section, because it reflects a willingness to interact with readers on other online platforms. The latter item was added to the "hypertextuality" section, because it reflects an understanding of the importance of inbound links to website content.

Zamith's original scheme included 79 items, 44 of which dealt with interactivity, hypertextuality and multimediality. This study's simplified scheme contains 27 items, each binary choices (see Appendix C).

Items were weighted in each of three areas (interactivity, hypertextuality and multimediality) to create a 100-point scale in each area and reflect the extent to which each item reflects exploitation of the potentiality of that area. In the areas of interactivity and hypertextuality, greater weighting was given to items that require a greater surrender of control on the part of the media organization (for instance, allowing unmoderated comments was weighted more heavily than permitting only moderated comments). In the area of multimediality, greater weighting was given to items that placed higher demands on resources (for instance, use of video was weighted more heavily than use of still photos).

4.4 Coding Scheme Evaluation and Intercoder Reliability

This coding scheme was assessed to determine whether it satisfied the criteria of a valid coding scheme: whether the included items are mutually exclusive and valid, and

whether different coders reliably agree on the application of the items in the coding scheme (Krippendorff, 1980).

Based on a review of the literature, it was determined that the three categories in the coding scheme successfully capture the features and functions needed to exploit the potentiality of web-based communication in three areas: interactivity, hypertextuality and multimediality. The items used to measure exploitation in each area are drawn directly from or adapted from existing work in the area, and appear to be valid elements of each of the three areas. The simplification of Zamith's coding scheme resulted in improved independence of items to be coded.

Three coders applied the coding scheme to 20 publication websites, or 10.3 percent of the total cases in the study. For the 27 items in the coding scheme, percentage of agreement among the three coders ranged from 85 percent to 100 percent, with an average of 96 percent agreement.

Krippendorff's Alpha (nominal) was calculated for each item; values ranged from 0.74 to 1, with an average of 0.91. (In cases where all three coders agreed that the item in question was not present in any of the cases reviewed, Krippendorff's Alpha was undefined.) Social scientists are generally advised to rely on data with reliabilities $\alpha \geq$ 0.8, but will rely on data $0.8 > \alpha \geq 0.667$ to draw tentative conclusions (Krippendorff, 2004, pp. 241-243).

Items representing interactivity, hypertextuality and multimediality were then collapsed into single values for each of the three factors, and Krippendorff's Alpha was tested for each of the resulting three measures (see Table 8).

Table 8

Intercoder Reliability

Item category	Krippendorff's Alpha
Interactivity	0.961
Hypertextuality	0.876
Multimediality	0.976

These scores are sufficient to demonstrate the reliability of the findings.

Of the 194 EPA publications reviewed, 162 (83 percent) had their own web presence of some sort. Publications without a web presence received zero scores for exploitation of web potentiality in every category, and all 162 publication websites were coded. The coding was conducted during the months of April, May and June of 2013.

4.5 Interactivity

Publication websites were coded for exploitation of the web potentiality of interactivity, using a 13-item scale (see Table 9).

Table 9

Interactivity Item Frequency

Item		Count	Percentage
1	General email address or contact form	152	93.8%
2	Personal email or contact form for staff members	43	26.5%
3	Personal email or contact form for authors	16	9.9%
4	Email addresses of official sources	9	5.6%
5	Discussion forum, chat room, user blog, wiki	2	1.2%
6	Quick poll or user survey	12	7.4%
7	Letters to the editor displayed online	26	16.0%
8	Other user content displayed online	9	5.6%
9	Moderated comments	31	19.1%
10	Unmoderated comments	27	16.7%
11	Readers can rate the articles	5	3.1%
12	User-submitted multimedia	4	2.5%
13	Links to publication's social media	109	67.3%

Interactivity scores for each publication were calculated by weighting each of the 13 items to create a 100-point scale, as described previously. Scores for exploitation of this web potentiality were low, with a mean of 16.89 (see Table 10 and Figure 4).

Table 10

Interactivity Descriptive Statistics

Interactivity	Value	Std. Error
Mean	16.89	.955
Median	15	
Std. Deviation	13.301	
Minimum	0	
Maximum	60	
Skewness	.644	.175
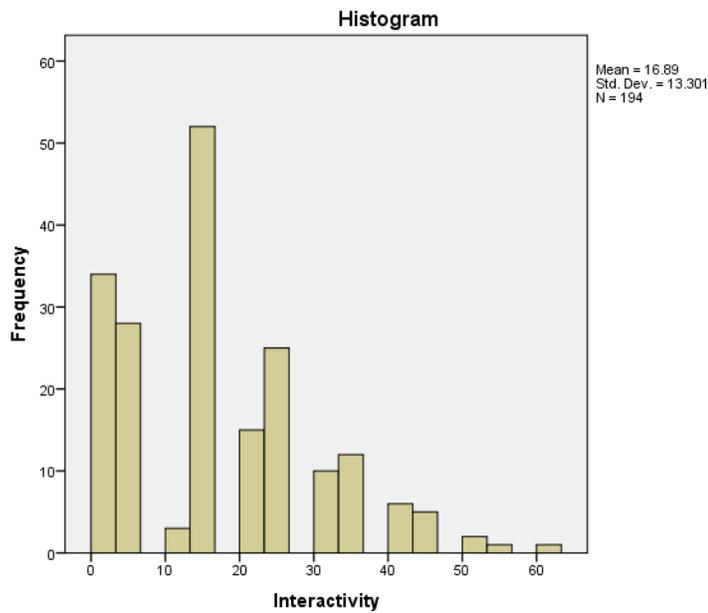
Figure 4. Distribution of Interactivity Scores

Interactivity scores were then compared between publications with low editorial freedom ("official" publications) and those with high editorial freedom ("independent" publications.) Although there is overlap between the interactivity scores for the low-freedom and high-freedom groups, the median score for interactivity was higher in the high freedom group (see Table 11 and Figure 5).

The higher median scores for interactivity among independent publications means that part of hypothesis one is confirmed: Organizations that are the official voice of a denomination or ministry are less likely to embrace the interactive nature of new media than organizations that are independent of any such organization.

Table 11

Interactivity Factored by Editorial Freedom

Interactivity	Low freedom	High freedom
Mean	14.45	24.12
Median	15	25
Std. Deviation	12.376	13.433
Minimum	0	0
Maximum	55	60
Skewness	.777	.338
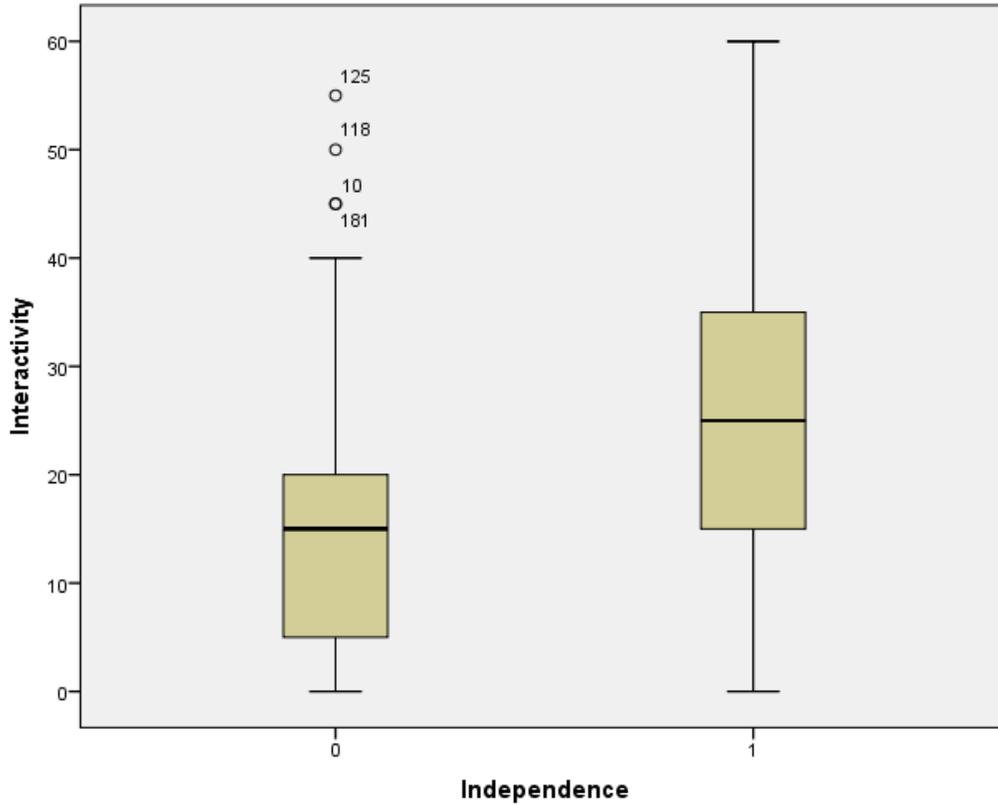
Figure 5. Interactivity Factored by Editorial Freedom

Interactivity scores were also analyzed by resource level. No clear pattern emerged (see Table 12 and Figure 6), which confirms another part of hypothesis one: resource level does not appear to be a significant contributor to exploitation of interactivity.

Table 12

Interactivity Factored by Resource Level

Resource Level	Mean	Median
1	18.08	20
2	11.03	10
3	15.58	15
4	19.74	15
5	20	25.04
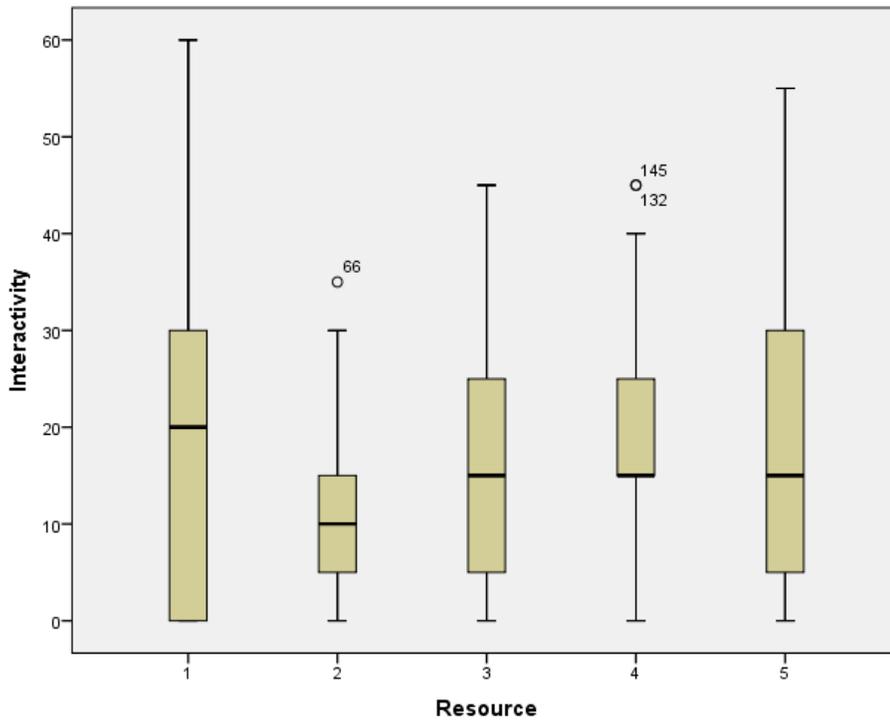
Figure 6. Interactivity Factored by Resource Level

4.6 Hypertextuality

Publication websites were coded for exploitation of the web potentiality of hypertextuality, using a seven-item scale (see Table 13).

Table 13

Hypertextuality Item Frequency

Item		Count	Percentage
1	Link to other point in same article	0	0.0%
2	Link to related content on same site	35	21.6%
3	Link to related content on external site	52	32.1%
4	Link to original documental source	17	10.5%
5	Link to related media on same site	6	3.7%
6	Link to related media on external site	10	6.2%
7	Social recommendation links for individual articles	82	50.6%

Hypertextuality scores for each publication were calculated by weighting each of the seven items to create a 100-point scale, as described previously. Scores for exploitation of this web potentiality were low, with a mean of 14.897, a median of 10, and a range from 0 to 75 (see Table 14 and Figure 7). Like interactivity scores, distribution of hypertextuality scores was positively skewed.

Table 14

Hypertextuality Descriptive Statistics

Hypertextuality	Value	Std. Error
Mean	14.897	1.3939
Median	10	
Std. Deviation	19.4147	
Minimum	0	
Maximum	75	
Skewness	1.311	
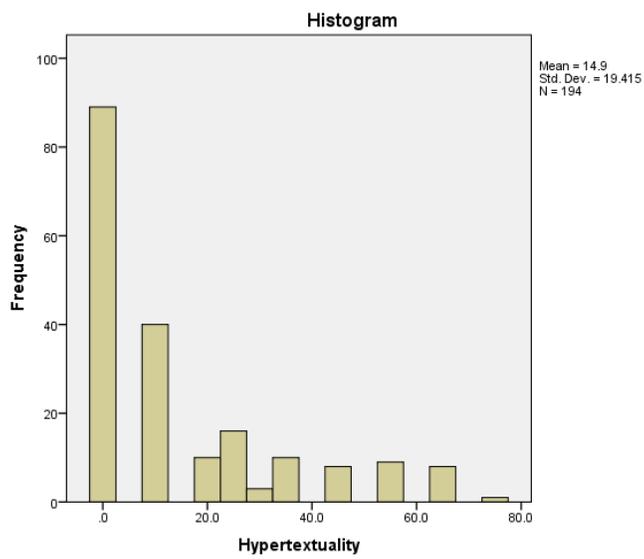
Figure 7. Distribution of Hypertextuality Scores

Hypertextuality scores were then compared between publications with low editorial freedom ("official" publications) and those with high editorial freedom ("independent" publications.) Although there is overlap between the hypertextuality scores for the low-freedom and high-freedom groups, the median score for hypertextuality was higher in the high-freedom group (see Table 15 and Figure 8).

The higher median scores for hypertextuality among independent publications means that part of hypothesis one is confirmed: Organizations that are the official voice of a denomination or ministry are less likely to embrace the hypertextual nature of new media than organizations that are independent of any such organization.

Table 15

Hypertextuality Factored by Editorial Freedom

Hypertextuality	Low freedom	High freedom
Mean	13.759	18.265
Median	0	10
Std. Deviation	19.7601	18.1301
Minimum	0	0
Maximum	75	65

Skewness	1.465	.940
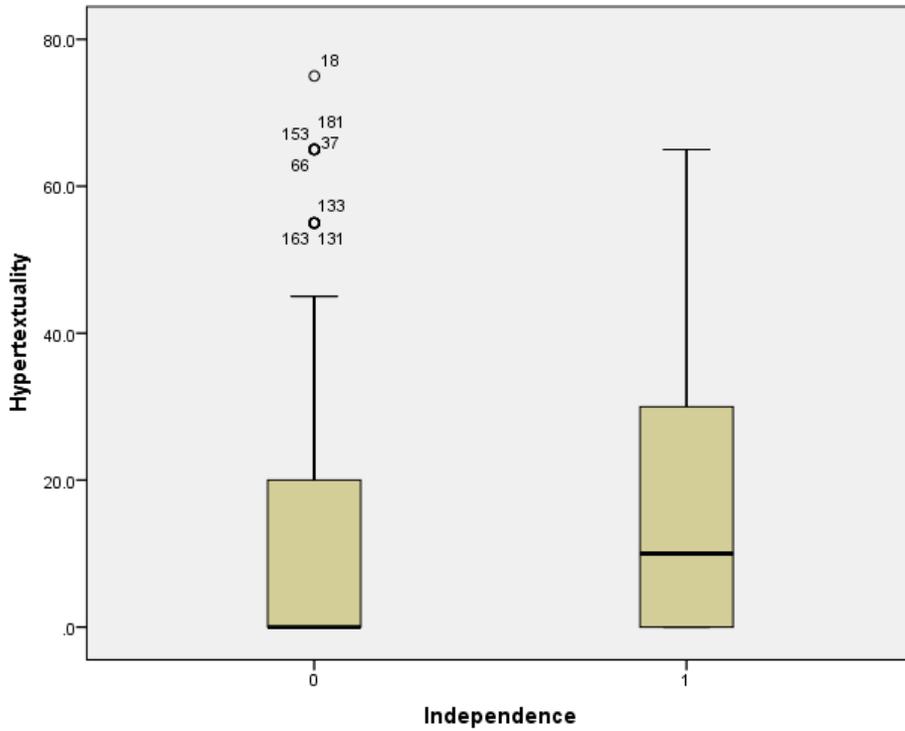
Figure 8. Hypertextuality Factored by Editorial Freedom

Hypertextuality scores were also analyzed by resource level (see Table 16 and Figure 9). No clear pattern emerged, although higher resource levels may contribute to higher levels of hypertextuality.

Table 16

Hypertextuality Factored by Resource Level

Resource level	Mean	Median
1	11.538	0
2	8.718	0
3	18.026	10
4	13.205	10
5	23.077	10
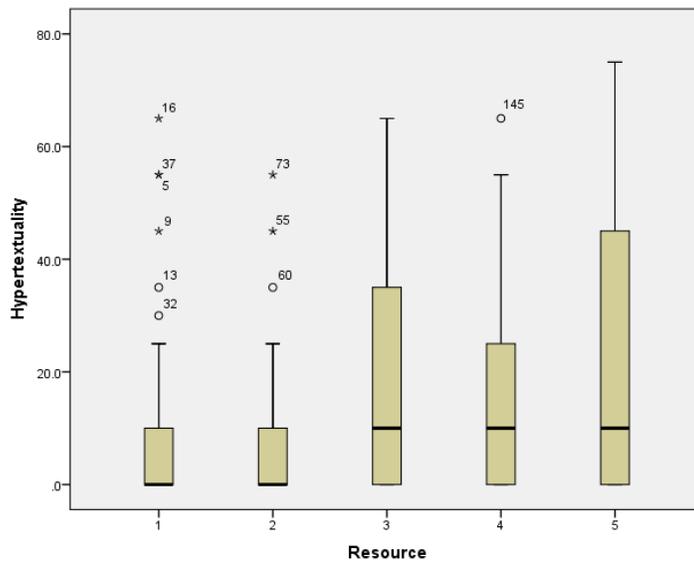
Figure 9. Hypertextuality Factored by Resource Level

4.7 Multimediality

Publication websites were coded for exploitation of the web potentiality of

multimediality, using a six-item scale (see Table 17).

Table 17

Multimediality Item Frequency

Item		Count	Percentage
1	Photos or drawings	161	99.4%
2	Slide show	33	20.4%
3	Static infographics	13	8.0%
4	Dynamic infographics	4	2.5%
5	Audio	32	19.8%
6	Video	81	50.0%

Multimediality scores for each publication were calculated by weighting each of

the 6 items to create a 100-point scale, as described previously. Scores for exploitation of

this web potentiality were low, with a mean of 21.91, a median of 15, and a range from 0

to 75 (see Table 18 and Figure 10). Like scores for interactivity and hypertextuality, the

distribution of multimediality scores was positively skewed.

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Table 18

Multimediality Descriptive Statistics

Multimediality	Value	Std. Error
Mean	21.91	1.523
Median	15	
Std. Deviation	21.206	
Minimum	0	
Maximum	75	
Skewness	.719	.175
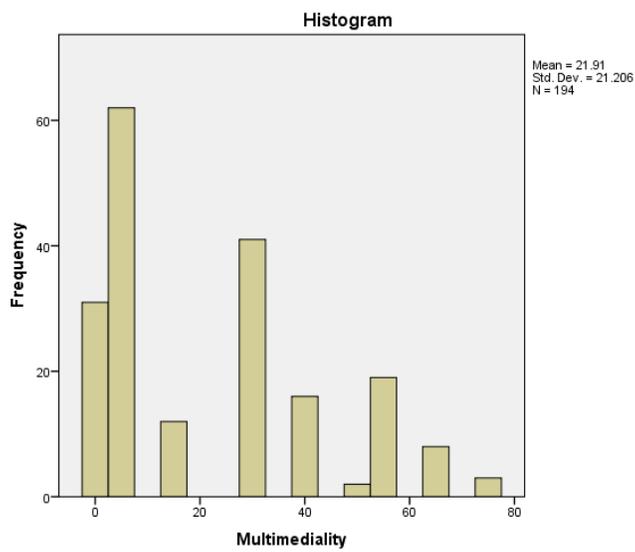
Figure 10. Distribution of Multimediality Scores

Multimediality scores were analyzed by resource level (see Table 19 and Figure 11). There is significant overlap in degree of exploitation of the potentiality of multimediality across all resource levels, but there is a sharp difference between the relatively low scores at resource levels one and two, and the much higher scores seen fairly consistently at resource levels three through five. The higher scores for exploitation of multimediality for high-resource publications means the hypothesis two is confirmed, and larger organizations with more resources are more likely to embrace the multimedia storytelling nature of new media.

Table 19

Multimediality Factored by Resource Level

Resource level	Mean	Median
1	17.31	5
2	15.64	5
3	26.18	30
4	25	30
5	25.51	30
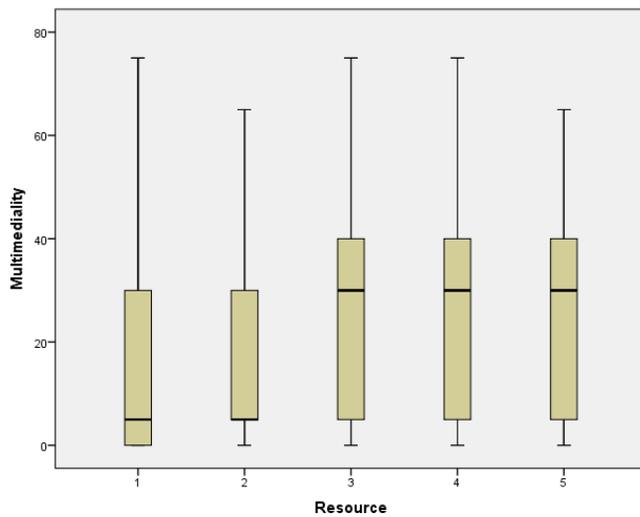
Figure 11. Multimediality Factored by Resource Level

Multimediality scores were also compared between publications with low editorial freedom ("official" publications) and those with high editorial freedom ("independent" publications.) The mean score for multimediality was slightly higher in the "high editorial freedom" group, but overlap with the low-freedom group was much more substantial than was the case with interactivity and hypertextuality scores (see Table 20 and Figure 12). This confirms part of hypothesis two: editorial independence does not appear to be a substantial contributor to exploitation of multimediality.

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Table 20

Multimediality Factored by Editorial Freedom

Multimediality	Low freedom	High freedom
Mean	21.34	23.57
Median	5	30
Std. Deviation	21.828	19.365
Minimum	0	0
Maximum	75	75
Skewness	.735	.746
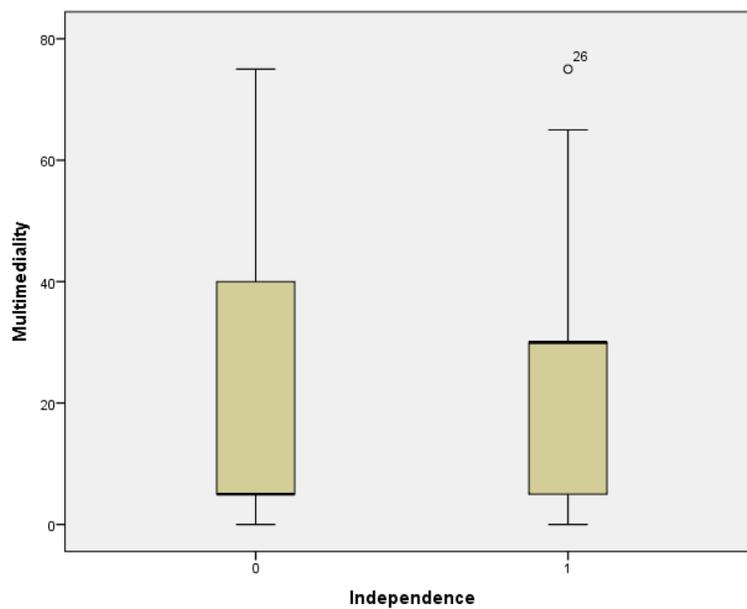
Figure 12. Multimediality Factored by Editorial Freedom

The preceding analysis looks at resource level by ordering publications by resource level, then dividing all publications in the study into five groups of roughly equal size. This approach helps to control the effect of significant outliers in the data, and partially compensates for the highly skewed data. A different approach would be to treat resource level as a continuous variable, using the reported circulations of all publications in the study. While this alternative approach is more susceptible to outliers, it also avoids the data loss that results from collapsing the continuous variable of circulation into five categorical groups.

Treating resource level as a continuous variable, a new analysis was performed looking for correlation between resource level and exploitation of Internet potentiality. There was not a significant relationship between circulation and interactivity showed essentially no relationship ($r = .036$). The relationship between circulation and hypertextuality showed a minimal or modest relationship ($r = .123$) as did the relationship between circulation and multimediality ($r = .132$). Although the relationships discovered through treating resource level as a continuous variable were less pronounced than those found by breaking resource level into five categories, the nature of the relationships was largely consistent between the two approaches.

Chapter 5: Survey of EPA Members

5.1 Survey Creation and Distribution

While the data gathered as part of the content analysis were sufficient to address the major research questions of this study, a survey of EPA members was also conducted to provide additional insights into factors influencing the degree to which print periodicals successfully exploit the potentialities of the web.

Survey research is used "to ascertain characteristics, opinions or behaviors of a population, usually by sampling from and then generalizing back to, that population" (Bowers & Courtright, 1984, p. 52).

An online survey was created using the web-based survey tool SurveyMonkey (see Appendix D). Editors of print periodicals in EPA were contacted by email and invited to participate in the survey. A follow-up email invitation was sent to nonrespondents a month later, and a "final notice" for participation was distributed a month after that. Survey data were collected in May through July of 2013.

Questions in the survey covered a range of factors believed to be possible contributors to successful exploitation of web potentialities, including staff size, age and education level of key decision makers, and use of revenue-generating features on the organization's website (see Appendix B).

5.2 Response Rate

Of the 194 editors contacted by email, 106 completed some or all of the survey, a response rate of 55 percent. Because of the relatively small size of the population, even

this high level of response yields a margin of error of ±6.43 at the 95 percent confidence

level. (A response rate of 85 percent would have been required to generate a margin of

error of less than ±3 percent at the 95 percent confidence level.)

Survey responses were received from a representative group of EPA members.

Survey respondents represented publications from every resource level within the

Evangelical Press Association (see Table 21). The percentage of survey respondents from

independent publications was 29 percent, not far from the 25 percent figure for

percentage of all EPA publications in that category (see Table 22).

Table 21

Survey Respondents by Resource Level

Resource level	Respondents	Percent
1	17	16
2	24	22.6
3	17	16
4	27	25.5
5	21	19.8

Table 22

Survey Respondents by Editorial Freedom

Editorial freedom	Respondents	Percent
Official publication	75	70.8
Independent publication	31	29.2

5.3 Survey Validation of Independent Variables

Survey information was used to validate the independent variables of editorial freedom and resource level.

Editorial freedom classification determined by membership category, ownership and purpose statement was compared with self-reported classification as an "official voice." In 85 percent of the cases, the internal classification matched the external classification. Examination of anomalous cases suggests that some respondents may have misunderstood the question, since editors of a number of publications published by denominations (such as the Free Will Baptist) or by large organizations (such as Focus on the Family) nonetheless reported that they did not function as the official voice of an organization. After allowing for responses where denominationally or organizationally owned publications had incorrectly reported that they were independent, the level of agreement increased to 93 percent.

This study used circulation as a proxy for research level. Survey results were used to test the relationship between circulation and staffing levels (another possible measure of available resources). Publications in the lower half of the circulation distribution reported lower total staffing ($M = 8.37$, $SE = 1.04$) than did publications in the upper half of the circulation distribution ($M = 12.33$, $SE = 2.7$). The relationship was not found to be significant ($p = .176$) and represented only a small effect ($r = .16$). This does not necessarily mean that circulation is not a valid measure of organizational resources, but may suggest that additional measures should be brought to bear in future research.

5.4 Survey Results

Respondents reported an average of 4.16 staff members who worked only on the print side of their operation, 2.13 staff members working only on the web side of their operation, and an additional 4.17 staff members sharing duties between print and web.

Primary decision makers for websites have worked with their organizations for an average of 12.5 years, and the average age for these individuals is 47. The average reported age for a website was 10.6 years.

Only 33 percent of survey respondents said their print publications were profitable, with the remaining 67 percent saying they were financially subsidized by a parent organization. Given that low level of print profitability, it comes as no surprise that only 13 percent reported that their websites were financially self-sustaining, while 87 percent required subsidy.

Ad sales were a source of website revenue for 24 percent of those responding, and product sales were a source of revenue for 31 percent. Only 11 percent of respondents reported the use of a "paywall" to generate revenue from site visitors paying for content.

Education levels for primary website decision makers varied, with the largest number of respondents reporting that the person in this role had a college degree (see Table 23).

Table 23

Education Levels of Primary Website Decision Makers

Education level	Percentage
High School	2.2
Some college	14.1
College degree	42.4
Some graduate school	14.1
Master's degree	19.6 percent
Doctorate	7.6

Only one-third of survey respondents (33 percent) said they had made substantial changes in their print publications in connection with the development of a web presence.

One in four (25 percent) of EPA members responding to the survey said they believe that at some point in the future their online operation will completely replace their

print periodical, while most (75 percent) said they believe their print publication will not

replaced by the web.

Independent variables identified by an editor's responses to the survey were

analyzed to determine possible relationship with the corresponding publication's

website's total exploitation of the potentialities of the Internet (a dependent variable that

represents the sum of weighted scores for interactivity, hypertextuality and

multimediality).

The use of website advertising to generate revenue was significantly related to

total exploitation of web potentiality. On average, websites with advertising had higher

total exploitation scores for online potentiality (M=71.3, SE=6.2) than did websites

without advertising (M=46.76, SE=4.45). This difference was significant p = .005;

however it represented a small effect $r = .28$.

No significant relationship was found between total exploitation of web

potentiality and presence of other revenue-generating mechanisms, such as product sales

or a paywall (charging site visitors for content).

Profitability appears to have a negative relationship with web potentiality

exploitation. Publications reporting that their websites were self-supporting had lower

scores for total exploitation of web potentiality ($M = 33.75$, $SE = 11.857$) than

publications with websites which required financial subsidy ($M = 55.55$, $SE = 3.982$).

This relationship between website profitability and total exploitation approached

significance ($p = .058$), but represented only a small effect ($r = -.196$).

The profitability of the parent publication was also negative related to web potentiality exploitation. Publications reporting that they were financially self-sustaining had lower scores for total web potentiality exploitation ($M = 38.55$, $SE = 5.409$) than publications which received an outside subsidy ($M = 59.76$, $SE = 4.86$). This relationship was highly significant ($p = .005$) and represented a medium effect ($r = -.32$).

No significant relationships were found between the age, tenure or education level of a website's primary decision maker and that site's total exploitation of web potentiality.

Chapter 6: Discussion

6.1 Findings Related to Hypotheses

This study of the degree to which evangelical periodical publishers are exploiting the potentiality of the Internet began with two research questions:

RQ1: Are independent publications more likely to have embraced interactivity, hypertextuality and multimediality than publications that function as the official voice of an organization?

RQ2: Are high-resource publishers more likely to have embraced interactivity, hypertextuality and multimediality than publishers with fewer resources?

To explore those questions about exploitation of the potential of new communication technology, two hypotheses were developed:

Hypothesis 1: Organizations that are the official voice of a denomination or ministry will be less likely to embrace the interactive and hypertextual nature of new communication technology than organizations that are independent of any such organization, while editorial independence will have relatively little relation to embrace of multimediality.

Hypothesis 2: Larger organizations with more resources will be more likely to embrace the multimedia storytelling nature of new communication technology, while resource level will have comparatively little relationship with interactivity and hypertextuality.

A content analysis of the web presence of all 194 print publication members of the Evangelical Press Association was conducted to determine the extent to which the websites were exploiting three key potentialities of the Internet: interactivity, hypertextuality and multimediality.

Scores for interactivity were lower for official publications ($M = 14.45$, $Mdn = 15$) than for independent publications ($M = 24.12$, $Mdn = 25$). Similarly, mean scores for hyperactivity were lower for official publications ($M = 13.579$, $Mdn = 0$) than for independent publications ($M = 18.265$, $Mdn = 10$). This confirms the first hypothesis, and demonstrates that organizations that are the official voice of a denomination or ministry are less likely to embrace the interactive and hypertextual nature of new communication technology than organizations that are independent of any such organization.

Multimediality scores for high-resource publications were higher than for smaller publications. Multimediality exploitation scores for the lowest 20 percent of publications by circulation were lower ($M = 17.31$ $Mdn = 5$) than for publications in the highest 20 percent of publications by circulation ($M = 25.51$, $Mdn = 30$). This confirms the second hypothesis, and demonstrates that larger organizations with more resources are more likely to embrace the multimedia storytelling nature of new communication technology.

In chapter three it was suggested that the anticipated relationships between major independent and dependent variables could be represented as a two-by-two grid. In actuality, such a representation proved problematic because of the uneven distribution of independent publications toward the low end of the circulation spectrum, and because of

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the difficulty in drawing a meaningful line between low-resource and high-resource

publications by using either a simple mean or median. Still, given those limitations, the

data generally support the grid of anticipated relationships (see Table 24).

Table 24

Match with Anticipated Relationships

		Editorial independence	
		Low	High
Resources	Low	Anticipated: Limited interactivity and hypertextuality Actual: Interactivity (M = 10.08, SE = 1.34) Hypertextuality (M = 7.08, SE = 1.78) Anticipated: Limited multimedia use Actual: Multimediality (M = 15.08, SE = 2.57) N = 60	Anticipated: Extensive interactivity and hypertextuality Actual: Interactivity (M = 22.83, SE = 2.28) Hypertextuality (M = 17.36, SE 2.93) Anticipated: Limited multimedia use Actual: Multimediality (M = 23.19, SE = 3.34) N = 36
	High	Anticipated: Limited interactivity and hypertextuality Actual: Interactivity (M = 17.52, SE = 1.39) Hypertextuality (M = 18.471, SE = 2.38) Anticipated: Extensive multimedia use Actual: Multimediality (M = 25.76, SE = 2.4) N = 85	Anticipated: Extensive interactivity and hypertextuality Actual: Interactivity (M = 27.69, SE = 3.47) Hypertextuality (M = 20.77, SE = 5.57) Anticipated: Extensive multimedia use Actual: Multimediality (M = 24.62, SE = 5.01) N = 13

Charting the degree of exploitation of each potentiality by high-resource and low-resource publications broken down by editorial independence, it is clear that each factor makes a notable contribution. The charts suggest a two-variable solution (see figure 13,

figure 14 and figure 15). Both resource levels and editorial independence generally

contribute to higher levels of exploitation, but resource levels play a more substantial role

for official publications than for their independent counterparts. This suggests that while

higher resource levels help offset the organizational constraints that discourage full

exploitation of web potentiality by official publications, the greater freedom enjoyed by

independent publications renders such an offset unnecessary, and therefore less

significant.
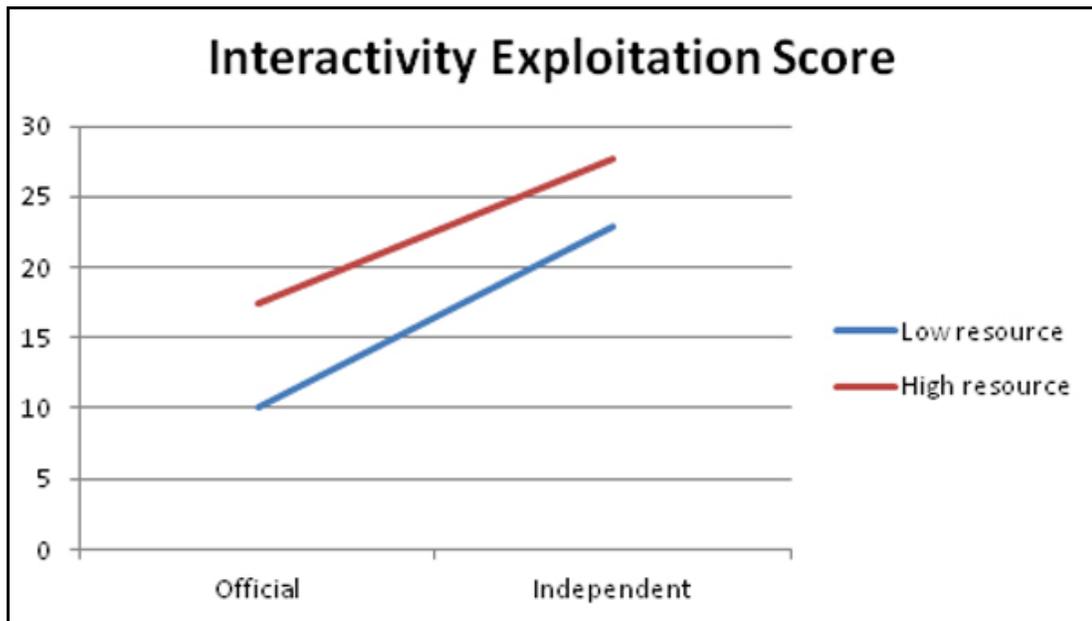
Figure 13. Two-Factor Graph of Interactivity.
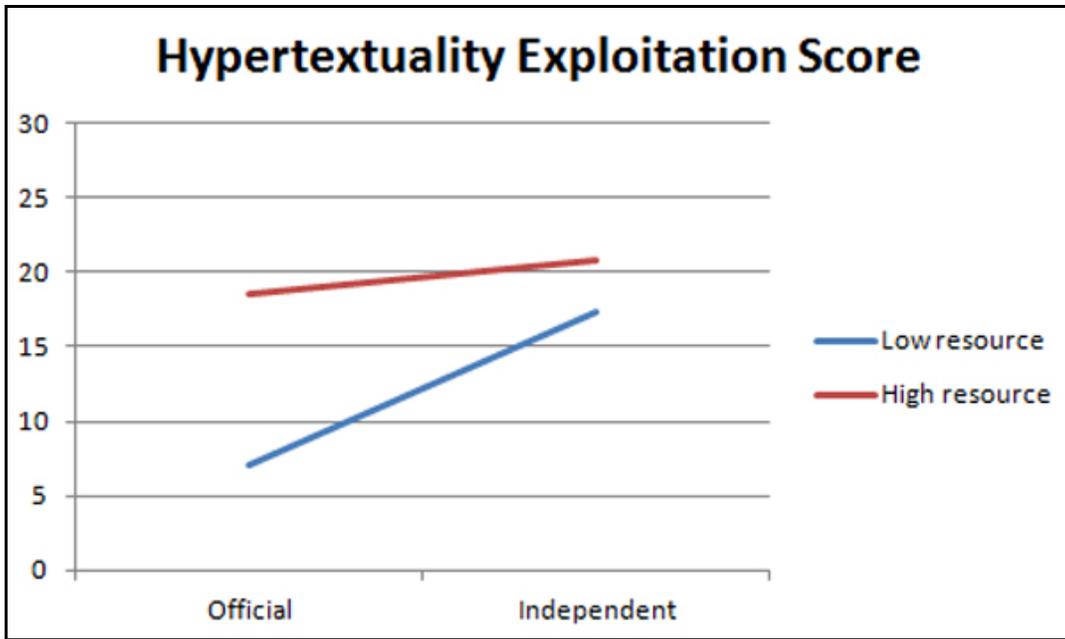
Figure 14. Two-Factor Graph of Hypertextuality.
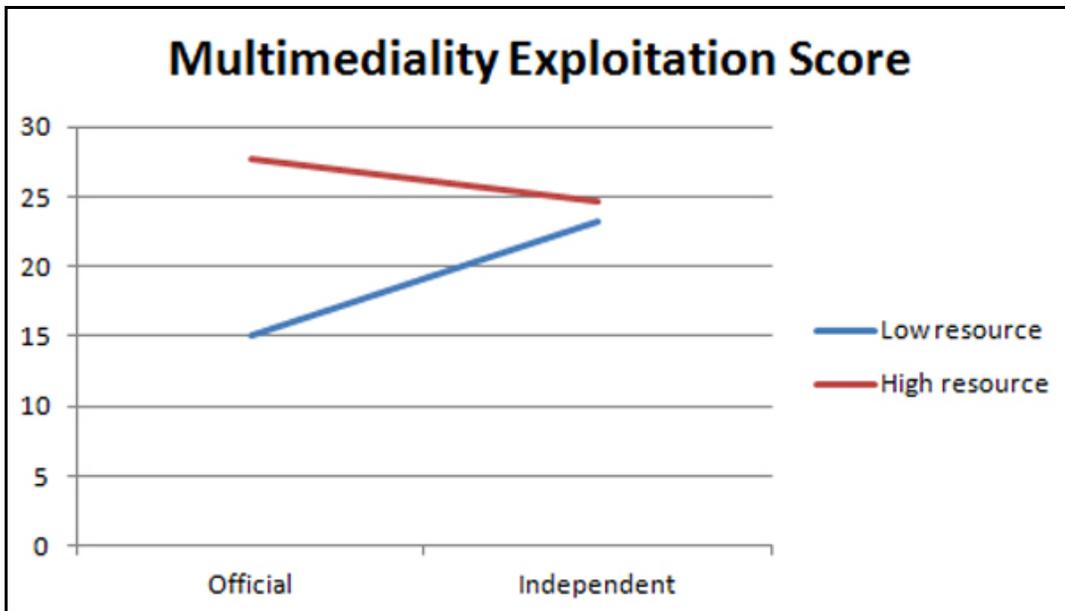
Figure 15. Two-Factor Graph of Multimediality.

6.2 The Role of Editorial Independence

Editorial independence appears to be a significant factor contributing to the likelihood that a publication will embrace interactivity and hypertextuality.

No hypotheses were developed relating editorial independence to exploitation of multimediality. The content analysis found that independent publications scored slightly higher on exploitation of multimediality ($M = 23.57$) than publications that serve as the official voice of an organization ($M = 21.34$), but that is a relatively small difference.

It appears that editorial independence is positively related to higher levels of exploitation in all three areas of Internet potentiality, although the relationship is most pronounced in the areas of interactivity and hypertextuality (see figure 16).
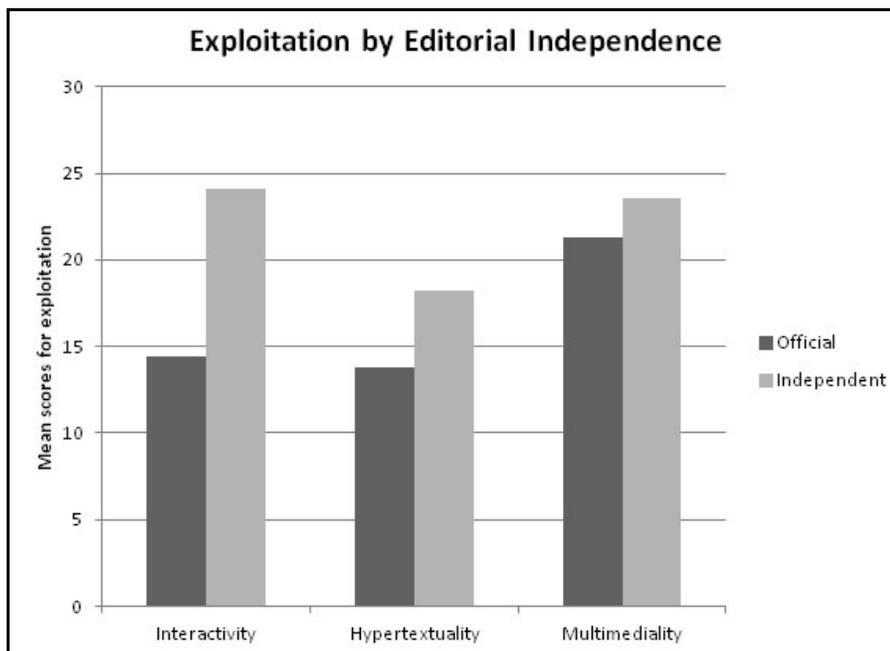
Figure 16. Exploitation by Editorial Independence

6.3 The Role of Resource Level

While embrace of multimediality is positively related to resource level, scores for multimediality do not smoothly climb as resource levels grow. Instead, there appears to be a sharp difference between exploitation of multimediality by publications in the lowest 40 percent by resource level ($M = 16.47$, $Mdn = 5$) and those in the upper 60 percent ($M = 25.56$, $Mdn = 30$). This suggests that there may be resource minimum which, once attained, enables publications to embrace the multimedia storytelling potential of the Internet. Similar patterns can be seen for hypertextuality and interactivity, although the effect is less pronounced (see figure 17). The dip in exploitation scores for publications in the second resource quartile is intriguing, and merits further study.
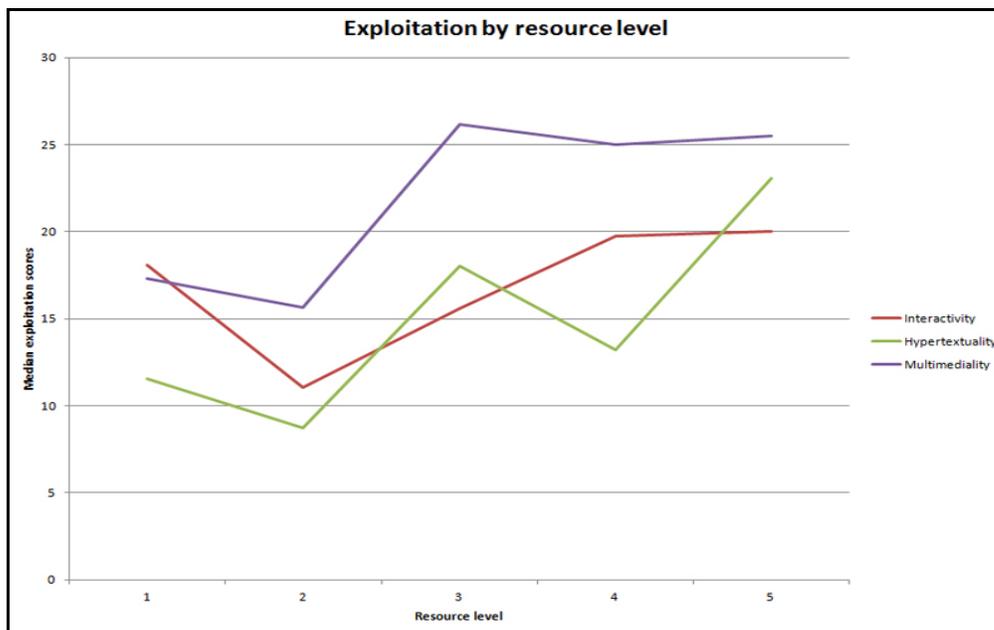
Figure 17. Exploitation of Web Potential by Resource Level

6.4 EPA Publications and Exploitation of Internet Potentiality

Because independent publications are not distributed evenly throughout the various resource levels within EPA's membership, the story that emerges from this study is one of two different kinds of periodicals, and the challenges they face in making the most of the potential presented by the emerging world of new communication technology.

Clustered at the low end of the resource spectrum are independent publications whose editorial mission is to serve their audience with information about a particular topic (e.g. church law), from a particular community (e.g. regional Christian newspapers), or for a particular demographic segment (e.g. women's magazines, youth magazines).

The editorial freedom enjoyed by these publications makes it easier for them to engage with their readers and surrender some control to the community which forms from what Dan Gillmor has termed "the former audience" (Gillmor, 2004, p. 136). At the same time, the resources limitations faced by these smaller publications makes it difficult for them to fully realize the Internet's potential for telling stories in a variety of ways (audio, video, print, interactive game, etc.).

The higher end of the resource spectrum is dominated by "official" publications whose editorial mission is to serve as the voice of a denomination or ministry. While few EPA publications would claim to be involved in completely objective journalism, official publications do not even aspire to this goal; instead, their purpose is to advance the

mission of their parent organization by providing educational and inspirational content consistent with that mission, and by supporting the public relations and marketing efforts of the organization.

Being able to tap into the resources of a parent organization makes it more likely that official publications will be able to exploit the Internet's potential for multimedia storytelling. Telling their story in varied ways to appeal to varied audiences helps these publications fulfill their editorial mission, and their efforts to embrace multimediality are likely to be supported by their parent organization, both philosophically and financially.

While official publications face fewer resource constraints than independent publications, they are much more likely to face philosophical constraints that limit their ability to embrace the interactive and hypertextual nature of the Internet. As the official voice of an organization, these publications exist to tell a story, not to engage in a discussion, so there is little incentive to enhance interactivity. Hypertextuality also holds limited appeal for the official publication, since the goal is to inform the reader about the views and works of a particular group, not to provide a broader picture of an issue or introduce the reader to similar (competing) organizations.

This study suggests that while editorial freedom and adequate resources are necessary conditions for the exploitation of the potentiality of new communication technology, neither factor is, by itself, sufficient. While editorial freedom seems to encourage use of interactivity and hypertextuality (and, to a lesser extent, multimediality), lack of resources can hold back development in all of these areas.

Similarly, while ample resources permit the development of features which make full use of the Internet's potentialities, organizational constraints may contribute to a reluctance to fully embrace certain aspects of new communication technology.

6.5 EPA Publications and the Future of the Internet

The content analysis conducted for this study showed that in general, evangelical periodicals are making limited use of the Internet's potential as a tool for interactive, hypertextual, multimedia communication. Although the scale used to measure exploitation in each area was modified significantly from Zamith's scale on which it was based (Zamith, 2008), measures of exploitation among EPA publications were strikingly similar to the levels Zamith found among Portuguese cyberjournals (see table 25).

Table 25

Comparing Measures of Internet Potentiality Exploitation

Potentiality	EPA publications	Portuguese cyberjournals
Interactivity	17%	17%
Hypertextuality	15%	9%
Multimediality	22%	18%

It appears that EPA publishers are not alone in failing to take advantage of the possibilities presented by new communication technologies. Increasing exploitation of these potentialities may require a shift in thinking on the part of publishers.

The creation of a list of Internet potentialities ordered by frequency of use on EPA member websites allowed easy identification of the most common and most rare elements (see Table C2 in appendix C), and demonstrated that publishers studied were most comfortable with website features that had clear print analogues.

The elements most commonly found in the content analysis of evangelical publication websites photos or drawings (present in 99 percent of sites) and a general email address or contact form (present in 94 percent of sites). Both of these elements have clear analogues in the print world, where periodicals have been printing still images and contact addresses almost as long as there have been periodicals, so including them on a website does not represent a significant paradigm shift.

At the other end of the frequency scale are interaction opportunities such as real-time discussion forums or chat rooms, and user-driven content items such as wikis or reader blogs. These have no clear print analogues, and the decision to include such elements will require new thinking by editors, in addition to any resource cost such features may exact.

(Hyperlinks in articles to other points in the same article were actually the least frequently seen feature; it seems likely that an overall move toward shorter articles – in print and online – may have rendered such links obsolete.)

The content analysis of EPA member websites identified some areas where publications could increase their exploitation of the potential of the Internet without significant challenge to organizational constraints, either philosophical or fiscal.

Only 3 percent of websites reviewed had a system that allowed readers to rate articles. The addition of a rating system may be controversial for editors who are accustomed to substituting their own editorial judgment for that of their readers, but it could also be instructive. Letting such a rating system influence the placement of stories on a site (perhaps through the use of a simple "highest rated articles" sidebar on the home page) would greatly increase the interactivity of sites while exacting no significant cost in resources.

Relatively few websites (22 percent) were taking advantage of the opportunity to direct readers to related content on the same site through hyperlinks, with even fewer (4 percent) directing readers to related multimedia content on their site. Linking to related content increases the hypertextuality of a site as well as its "stickiness" (likelihood that site visitors will move from item to item without leaving the site), without challenging organizational constraints that may make some EPA publications reluctant to include links.

Slideshows were used by only 20 percent of the sites visited, and represent a significant opportunity to expand multimediality without significant resource expenditure. Space constraints in print often limit publishers to one or two photos to accompany an article, but such constraints do not exist online. In this age of digital

photography, it is not unusual for a photographer to return from an assignment having captured dozens or even hundreds of images. Making some of these additional images available online through a slideshow that accompanies a story is a feature that makes relatively modest demands on resources while giving readers of a print story a reason to visit the publication's website.

Quick polls or reader surveys were present on only 7 percent of sites reviewed. While implementing a quick reader poll takes a bit of technical work, once the software is in place new polls can be easily implemented by nontechnical personnel. While such polls are certainly not reliable tools for measuring reader opinion, they increase the interactivity of a site with relatively little financial investment, and require very little relinquishment of editorial control by the publication.

Editors of well-resourced publications who have been reluctant to increase the interactivity and hypertextuality of their websites may be well-advised to consider whether that reluctance truly arises from organizational constraints, or whether it is simply a reflection of institutional inertia. The new age of digital communication is creating a generation of active, rather than passive, media consumers. Today's website visitor expects to be included in the conversation, and connected to the broader world. Organizations unwilling to engage with their supporters or their broader Internet context risk being seen as old-fashioned and irrelevant.

Similarly, editors of publications whose modest means are reflected in their minimal or nonexistent exploitation of Internet potentialities may do well to consider

reallocating some of their limited funds to engaging with audience members online, and

telling stories across multiple media platforms. The survey for this study found that a

relatively low number of EPA members (25 percent) believe that at some point in the

future their online operation will completely replace their print periodical. But the steady

growth of Internet-based communication makes it clear that the Internet is not a passing

fad -- not the CB radio of the 21st century. Confidence in the future of an existing "dead

tree" platform may prove to be the industry's undoing if it feeds a continued reluctance to

create functional publication outposts in cyberspace.

6.6 Findings Related to Theory

This study was grounded in diffusion of innovation theory and in studies of

innovation management, both of which point to the significant role that characteristics of

adopters (as well as characteristics of a particular innovation) play in the decision to

adopt an innovation.

This study supports earlier findings by Rogers that early adopters tend to have

larger-sized units (in this case, publication circulations). It also supports his finding that

early adopters tend to be less dogmatic, to the extent that lack of editorial freedom can be

seen as a form of dogmatism (Rogers, 1962/2003).

With regard to the area of innovation management theory, this study suggests that

Schumpeter was right to change his view when he abandoned the idea that smaller

organizations were more likely to innovate due to greater flexibility, and to instead

embrace the view that larger organizations are more likely to innovate due to greater access to resources (Schumpeter, 1934). However, this study also suggests that his original thoughts regarding the relationship between organizational flexibility and willingness to innovate were not entirely mistaken. Indeed, it appears that with regard to exploitation of the Internet's potentialities, both flexibility and access to resources are required.

Ultimately, this study demonstrates that single-factor analysis is inadequate for understanding decisions to exploit particular capabilities of new communication technology. Instead, constraints and motivations arise from both resource issues and policy considerations (and almost certainly other factors as well). The question of organizational qualities contributing to successful adoption of Internet communication potentialities is complex, and does not hinge on a single factor.

6.7 Unexpected Findings

The positive relationship between resource level and successful exploitation of hypertextuality was not anticipated. Based on this finding, it seems reasonable to assume that taking advantage of hypertextuality places a burden on the resources of a media organization. Finding useful sources to reference by hyperlinks requires research on the part of staff members, as does periodically verifying those links to ensure that they are still valid.

For a small publication, simply posting their own content on a website may be a significant challenge, and the task of monitoring the content of others to help readers

place a site's content into a larger context may be an ambition that exceeds available resources, or may simply be a lower priority and consequently not happen with any regularity.

Another unexpected finding was the frequency with which publication websites studied included video. Fully half of the publications in the study which had their own websites included video to some degree. Further study is needed to determine the extent to which publishers are using video to significantly enhance editorial content, as opposed to merely including marginally related video to serve as "eye candy" for the audience.

The negative relationship between profitability and web potentiality exploitation was unexpected, but in hindsight may be simply an artifact of the difference in resources between "official" and "independent" publications. While profitability leads to greater available resources in the for-profit publishing world, among non-profit organizations that is not necessarily the case. The largest publications in EPA are often connected with and subsidized by large ministries, so lack of profitability does not necessarily translate into lack of resources. Smaller publications that are profitable may nonetheless lack the resources to take full advantage of the Internet's potential, while larger subsidized publications may have more available resources than their "subsidized" status would suggest. Additionally, only about one-third of EPA publications are profit-making entities, and the number of profitable websites is even lower (13 percent). The relative rarity of profitability among publications studied complicates efforts to explain the relationship between profitability and web potentiality exploitation.

The relatively small number of survey respondents (33 percent) who said they had made substantial changes in their print publications in connection with the development of a web presence was surprising, and suggests that many editors may continue to see their publication's website as "something extra," rather than as a vital part of an overall communication strategy.

6.8 Limitations of Research

A substantial limitation of this study follows from the decision to focus on a single -- and perhaps idiosyncratic -- segment of the publishing world. The decision to study publications that are members of the Evangelical Press Association grew out of the author's longstanding interest in and involvement with this organization and its members. This narrow focus significantly limits the generalizability of the results, as publications in this group are not necessarily representative of other types of publications.

Despite this limitation, findings related to members of the Evangelical Press Association are likely to be reflective of religious periodicals from other segments of the faith world, such as members of the (mainline Protestant) Associated Church Press, American Jewish Press Association, Catholic Press Association, or Canadian Church Press.

This study could also inform understanding of Internet use by other kinds of publications facing similar organizational and resource constraints. Labor union publications, college alumni publications, and cause-oriented political or public policy magazines are just a few examples of publication categories that may face opportunities

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and challenges similar to those faced by members of the Evangelical Press Association. Applying the methods and measures of this study to other similar types of publications may prove fruitful.

While findings based on a study of religious periodicals should not necessarily be expected to be applicable to dissimilar publications -- such as community newspapers or mainstream consumer magazines -- the similarity between exploitation scores in this study and scores in Zamith's 2008 study of Portuguese cyberjournals suggests that perhaps religious periodicals are not as different from other sorts of publications as one might assume. Regardless of editorial purpose, publications face similar economic realities. Those realities may be such a powerful force that differences due to philosophy or audience are drowned out. If that is the case, the decision to focus on an idiosyncratic group of publications may not be as significant a limitation as it first appears.

Another limitation is the treatment of editorial independence as a simple categorical variable with only two states, which may overly simplify the situation in place at many publications. Some organizations encourage editorial freedom on the part of their official publications, even to the point of permitting questioning or criticism of the parent organization (although admittedly these are few in number). Similarly, some publications classified as "independent" in this scheme may be just as beholden to a set of positions on issues as any "official" publication. Identifying additional attributes of editorial independence could support the creation of a five-point scale to mirror that used for

resource level, which would facilitate further analysis of the shared contribution these factors make to exploitation of the Internet's potentialities.

Using circulation as a proxy for resource level is useful, but overlooks other resource-related factors which may paint a more complete picture, such as staffing levels and overall budget.

Although items on the content analysis were tested for intercoder reliability, a limitation of this study is that nearly all of the sites were coded by a single individual. Using multiple coders for all sites would increase the reliability of the results.

6.9 Implications for Future Research

While this study has taken a deep look at the extent to which evangelical publications are exploiting various potentialities of the Internet, no investigation has been made regarding the desirability of such exploitation. "Just because you can do something doesn't mean that you should" is a common observation. The fact that a particular web potentiality exists does not mean that exploiting it is a good idea. For instance, peppering articles with links will certainly create more hypertextuality, but studies suggest that it may also exact a cost in terms of comprehension and retention (Carr, 2011).

The content analysis grid developed for this study could be applied to high-traffic and/or financially successful websites to shed light on the degree to which various elements are present in such sites; that might help guide decisions about which potentialities to exploit.

As a part of this study, publications which are excelling in exploitation of Internet potentiality were identified. It would be interesting to learn more about these high-exploitation publications, perhaps through a combination of site visits and interviews. Such research might help shed light on factors other than editorial independence and resource level which contribute to successful exploitation of the potentialities of new communication technology.

Other independent variables could be usefully explored with regard to their relationship (if any) to the degree of adoption of new media technology by a publication. These include:

- Leadership style (for instance, authoritarian organizations might be slower to adopt innovations than democratic or laissez-faire organizations).

- Compensation (are staffers offered additional pay for convergence work).

- Cooperation (is work in new media carried out within existing staff structure, or by independent unit).

- Audience conception, including the perceived interest of audience in engaging with a publication through its website.

- Individual level of technology use by staff.

The Internet is a fluid communication platform, and the content and features of a website can change quickly. A site that had no discussion forum yesterday may have one today, and a site that permitted visitors to comment freely on articles can impose a moderation system in seconds in response to a perceived problem. For this reason, a

longitudinal study of exploitation of Internet potentiality could be useful. A second measurement of websites explored in this study after two or three years have passed would allow the identification of sites that have substantially increased their exploitation of the Internet's capabilities, which in turn could lead to study of internal and external factors which contributed to that increased exploitation.

As was previously acknowledged, the decision to study only publications that are members of the Evangelical Press Association significantly limits the generalizability of this study's results. It would be interesting to apply the same methodology to other types of publications. Doing so could contribute to further development of the content analysis grid which was the primary analytical tool employed in this study. Periodic application of that tool could illuminate growing exploitation of the Internet's potential by traditional media publishers as they move – ready or not – into the digital future.

References

Abernathy, W., & Clark, K. B. (1985). Mapping the Winds of Creative Destruction. *Research Policy, 14*, 3-22.

Bardoel, J., & M. Deuze. (2001). Network Journalism: Converging Competences of Media Professionals and Professionalism. *Australian Journalism Review, 23*(2), 91-103.

Bates, B. J., & Albright, K. S. (2006). Issues in Network / Distribution Economics. In A. Albarran, S. Chan-Olmstead, & M. Wirth (Eds.), *Handbook of Media Management and Economics* (pp. 417-444). Mahwah, NJ: Lawrence Erlbaum Associates.

Berelson, B. (1952). *Content Analysis in Communication Research*. Glencoe, IL: Free Press.

Blackstone, W. (1825). *Commentaries on the Laws of England, in Four Books* (16th ed.). London: J. Butterworth & Son. (Original work published 1769)

Boczkowski, P. (2004). The Processes of Adopting Multimedia and Interactivity in Three Online Newsrooms. *Journal of Communication, 52*(2), 197-213.

Boczkowski, P. (2005). *Digitizing the News: Innovation in Online Newspapers*. Cambridge, MA: MIT Press. (Original work published 2004)

Bowers, J. W., & Courtright, J. A. (1984). *Communication Research Methods*. Glenview, Ill: Scott, Foresman & Company.

Burns, T., & Stalker, G. M. (1994). *The Management of Innovation*. New York: Oxford University Press.

Carr, F. (2002, November 14). *The Truth About Convergence* [Article]. Retrieved July 21, 2013, from Poynter Institute website: http://www.poynter.org/uncategorized/3375/the-truth-about-convergence/

Carr, N. (2011). The Shallows: What the Internet is Doing to Our Brains. New York: W.W. Norton & Company.

Castells, M. (2001). The Internet Galaxy: Reflections on the Internet, Business, and Society. London: Oxford University Press.

Castells, M. (2001). The Internet Galaxy: Reflections on the Internet, Business and Society. London: Oxford University Press.

Cizik, R. C. (1990). National Association of Evangelicals. In *Dictionary of Christianity in America* (p. 793). Downers Grove, IL: InterVarsity Press.

Deuze, M. (2003). The Web and its journalisms: Considering the consequences of different types of news media online. *New Media & Society, 5*(2), 203-230.

Doyle, C. (2011). Circulation. In *A Dictionary of Marketing*. Retrieved August 8, 2013, from Oxford Reference website: http://0-www.oxfordreference.com.clicnet.clic.edu/view/10.1093/acref/9780199590230.001.0001/acref-9780199590230-e-0300?rskey=11gb2l&result=4

Evangelical Press Association 2012-2013 Member Handbook and Directory. (2012). Minneapolis, MN: Evangelical Press Association.

Evangelical Press Association. (1948, May). *Meeting of Christian Editors* (Meeting

     Minutes). Chicago: Robert Walker

Evangelical Press Association. (2011). *Minutes of the Fall 2011 Board Meeting* (Board

     minutes). Minneapolis, MN: D'Arcy Maher

Gilbert, C. G. (2006). Can competing frames co-exist? The paradox of threatened

     response. *Organization Science, 17*(1), 150-167.

Gillmor, D. (2004). *We the Media*. Sebastopol, CA: O'Reilly Media.

Goode, S., & Stevens, K. (2000). An Analysis of the Business Characteristics of

     Adopters and Non-adopters of World Wide Web Technology. *Information

     Technology Management, 1*, 129-154.

Kohler, C. (2009, July 27). Play Cutthroat Capitalism, Wired's Somali Pirate Game.

     Wired, 17(7). Retrieved July 18, 2013, from Wired website: http://

     www.wired.com/gamelife/2009/07/pirate-game/

Kopper, G., Kolthoff, A., & Czepek, A. (2000). Research Review: Online Journalism -- a

     Report on Current and Continuing Research and Major Questions in the

     International Discussion. *Journalism Studies, 1*(3), 499-512.

Kovarick, B. (2002). *Web Design for the Mass Media*. Boston: Allyn & Bacon.

Krippendorff, K. (1980). *Content Analysis: An Introduction to its Methodology*. Beverly

     Hills, CA: Sage Publications.

Krippendorff, K. (2004). *Content Analysis: An introduction to its methodology* (2nd ed.).

     Thousand Oaks, CA: Sage.

Küng, L. (2008). Strategic Management in the Media: Theory to Practice. London: Sage
  Publications.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for
  categorical data. *Biometrics, 33*, 159-174.

LaPorte, T., Demchak, C., de Jong, M., & Friis, C. (2000, Aug. 5). *Democracy and
  Bureaucracy in the Age of the Web*. Paper presented at the International Political
  Science Association, Quebec, Canada.

Larson, M. (1968). *The First 20 Years of the Evangelical Pres Association*. La Canada,
  CA: Evangelical Press Association.

Lavine, J., & Wackman, D. (1988). *Managing Media Organizations*. White Plains, NY:
  Longman.

Lawson-Borders, G. (2003). Integrating new media and old media: Seven observations of
  convergence as a strategy for best practices in media organizations. *JMM -- the
  International Journal on Media Management, 5*(2), 91-99.

Lehman-Wilzig, S., & Cohen-Avigdor, N. (2003). The natural life cycle of new media
  evolution: Inter-media struggle for survival in the Internet age. *Jmm -- the
  International Journal on Media Management, 5*(2), 91-99.

Leonard-Barton, D. (1992). Core Capabilities and Core Rigidities: A paradox in
  managing new product development. *Strategic Management Journal, 13*, 111-
  125.

Marsden, G. M. (1990). *Religion and American Culture*. Orlando, FL: Harcourt Brace College Publishers.

Marty, M. (1958). *The New Shape of American Religion*. New York: Harper and Row.

Massey, B. L., & Levy, M. R. (1999). Interactive Online Journalism at English-language Web Newspapers in Asia. *International Communication Gazette, 61*(6), 523-538.

Matthews, A. H. (1992). *Standing Up, Standing Together: The National Association of Evangelicals*. Carol Stream, IL.: National Association of Evangelicals.

Membership Categories. (n.d.). Retrieved July 19, 2013, from Evangelical Press Association website: http://www.evangelicalpress.com/join-evangelical-press-association/membership-categories/

Misa. T. (2004). *Technology and Culture: From the Renaissance to the Present*. Baltimore: John Hopkins University Press.

Moon, M. J. (2002). The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review, 62*(4), 424-433.

Murphy, S. (2011, October 24). *Religious congregations embrace cutting-edge tech*. Retrieved October 25, 2011, from TechNewsDaily website: http://www.technewsdaily.com/3328-religious-congregations-technology-church.html

Nelson, R. R. (1959). The simple economics of basic scientific research. *Journals of Political Economy, 67*(3), 297-306.

Neuman, W. R. (1991). *The Future of the Mass Audience*. Cambridge, England: Cambridge University Press.

Newhagen, J. E., & S. Rafaeli. (1996). Why Communication Researchers Should Study the Internet: a Dialogue. *Journal of Communication, 55*(3), 4-13.

Nguyen, A. (2008). Facing "The Fabulous Monster": The traditional media's fear-driven innovation culture in the development of online news. *Journalism Studies, 9*(1), 91-104.

Pavlik, J. (2001). *Journalism and New Media*. New York: Columbia University Press.

Pryor, L. (2002, April 26). The Third Wave of Online Journalism. *Online Journalism Review*. Retrieved April 15, 2012, from Online Journalism Review website: http://www.ojr.org/ojr/future/1019174689.php

Rheingold, H. (1993). The virtual community: Homesteading on the electronic frontier. Reading, MA: Addison-Wesley.

Rogers, E. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press. (Original work published 1962)

Ryan, B., & Gross, N. (1943). The Diffusion of Hybrid Seed Corn in Two Iowa Communities. *Rural Sociology, 8*(1), 15-24.

Saga, V. L., & Zmud, R. W. (1994). The nature and determinants of IT acceptance, routinization, and infusion. In L. Levin (Ed.), *Diffusion, Transfer and Implementation of Information Technology* (pp. 67-86). Amsterdam: North-Holland.

Schultz, T. (1999). "Interactive Options in Online Journalism: A Content Analysis of 100 U.S. Newspapers. *Journal of Computer Mediated Communication, 5*(1).

Retrieved August 10, 2013, from Journal of Computer Mediated Communication website: http://jcmc.indiana.edu/vol5/issue1/schultz.html

Schultze, Q. (Ed.). (1990). *American Evangelicals and the Mass Media*. Grand Rapids, MI: Zondervan Publishing House.

Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. New York: Harper and Brothers.

Schumpeter, J. A. (1934). *The Theory of Economic Development*. Cambridge, MA: Harvard University Press.

Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. New York: Harper and Brothers.

Shelley, B. L. (1990). Evangelicalism. In *Dictionary of Christianity in America* (p. 413). Downers Grove, IL: InterVarsity Press.

Shyam Sunda, S. (2000). The Internet -- Multimedia Effects on Processing and Perception of Online News: a Study of Picture, Audio, and Video Downloads. *Journalism Quarterly, 77*(3), 480-499.

Siles, I., & Boczkowski, P. (2012). Making sense of the newspaper crisis: A critical assessment of existing reserach and an agenda for future work. *New Media & Society, 14*(8), 1375-1394.

Singer, J. B. (2004). Strange bedfellows? The diffusion of convergence in four news organizations. *Journalism Studies, 5*(1), 3-18.

Student Press Law Center. (2010). *Liability for Student Media*. Retrieved July 30, 2013,

    from Student Press Law Center website: http://www.splc.org/knowyourrights/

    legalresearch.asp?id=30

Sunstein, C. (2001). *republic.com*. Princeton, NJ: Princeton University Press.

Tarde, G. (1969). *The Laws of Imitation* (Elsie Clews Parsons, Trans.). New York: Holt.

    (Original work published 1903)

Tushman, M. L., & Anderson, P. (1986). Technological discontinuities and

    organizational environments. *Administrative Science Quarterly, 31*, 439-465.

Vorvoreanu, M. (2008). Website Experience Analysis: A new research protocol for

    studying relationship building on corporate websites. *Journal of Website

    Promotion, 3*(3/4), 222-249.

Walther, J. B., Gay, G., & Hancock, J. T. (2005). How Do Communication and

    Technology Researchers Study the Internet? *Journal of Communication, 55*(3),

    632-657.

Weber, R. P. (1990). Basic Content Analysis. *Quantitative Applications in the Social

    Sciences, 7*(49).

Wiersma, M. F., & Bantel, K. A. (1992). Top management team demography and

    corporate strategic change. *The Academy of Management Journal, 35*(1), 91-121.

Wildemuth, B. M. (1992). An empirically grounded model of the adoption of intellectual

    technologies. *Journal of the American Society for Information Sciences, 43*, 210-

    224.

Wilkinson, J. S., Grant, A. E., & Fisher, D. J. (2009). *Principles of Convergent Journalism*. New York: Oxford University Press.

Yimbo, W. O. (2011). *Analyzing E-Government in Developing Countries using a Stages Model Approach: A Case Study*. Unpublished doctoral dissertation, University of Minnesota, Minneapolis.

Zaltman, G., Duncan, R., & Holbek, J. (1973). *Innovations and Organizations*. New York: Wiley.

Zamith, F. (2008, April). *A methodological proposal to analyze the news websites use of th potentialities of the Internet*. Paper presented at the 9th International Symposium on Online Journalism, Austin, TX.

Zamith, F. (2008, April). *A methodological proposal to analyze the news websites use of the potentialities of the Internet*. Paper presented at the 9th International Symposium on Online Journalism, Austin, TX.

Appendix A: Evangelical Press Association Print Periodical Members and Websites

Table A1

Publication Websites Reviewed

Publication Title	Website URL
ACTION Magazine--Men For Missions Int'l	www.mfmi.org
Advent Christian Witness	www.acgc.us
Adventure Guide	www.d6curriculum.com/teacher/student-pages
AFA Journal	www.afajournal.org
Alabama Baptist	www.thealabamabaptist.org
Alliance Life	www.alliancelife.org
American Bible Society Record	www.absrecord.com
ANM World Missions	www.adnamis.org/news/represent/magazine01
Answers Magazine	www.AnswersMagazine.com
APU Life	www.apu.edu
Asbury Collegian	collegian.asbury.edu
Asbury Herald, The	www.asburyseminary.edu
Associate Reformed Presbyterian, The	www.arpmagazine.org
Banner, The	www.cbubanner.com/
Banner, The	www.thebanner.org
Baptist Bulletin	www.BaptistBulletin.org
Baptist Messenger	www.BaptistMessenger.com
Beacon, The	www.readmybeacon.com/
Biola Magazine	www.biola.edu/biolamag
Blue Ridge Christian News	www.blueridgechristiannews.com
Books & Culture	www.booksandculture.com
Brink, The	www.thebrinkonline.com
byFaith	www.byfaithonline.com
Cadet Quest	www.CalvinistCadets.org
CAMINO	www.caminoglobal.org/
Campbell Times, The	thecampbelltimes.com/wp/
Cardinal & Cream	www.cardinalandcream.info

Central Florida Episcopalian	www.cfdiocese.org
Christian Communicator	www.acwriters.com
Christian Examiner	www.christianexaminer.com
Christian Home & School	www.csionline.org/christian_home_and_school
Christian Journal, The	www.thechristianjournal.org/
Christian Leader	www.usmb.org
Christian Mission	www.christianaid.org
Christian News Northwest	www.cnnw.com
Christian Research Journal	www.equip.org
Christian School Education	www.acsi.org
Christian Standard	www.christianstandard.com
Christianity Today	www.christianitytoday.com
ChristianWeek	www.christianweek.org
Church Advocate, The	www.cggc.org
Church Finance Today	www.churchlawandtax.com/cft/2013/july/
Church Law & Tax Report	churchlawandtax.com
Church of God Evangel	www.pathwaypress.org
Citizen	www.citizenlink.com/citizen-magazine/
Clarion, The / Bethel Univ.	https://www.bethel.edu/news/clarion/
Clubhouse	www.clubhousemagazine.com
Clubhouse Jr.	www.clubhousejr.com
Column, The	www.nwc.edu
Command	www.ocfusa.org
Comment magazine	www.cardus.ca/comment
Compassion Magazine	www.compassion.com/sponsordonor/compassionmagazine
Covenant Companion, The	covenantcompanion.com/
Crux	www.regent-college.edu/crux
Daily Walk, The	www.walkthru.org
Decision	www.billygraham.org/decision
Direction	www.randallhouse.com
Dispatch	www.bridgesforpeace.com
Do Well	www.crown.org
Echo, The	theechonews.com/
EFCA Today	www.efcatoday.org
Encompass	www.americananglican.org
Enrichment Journal	www.enrichmentjournal.ag.org
Evangelical Advocate, The	www.cccuhq.org
Evangelical Missions Quarterly	www.emqonline.com
Explorer's Guide	www.randallhouse.com

Facts & Trends	www.lifeway.com/Facts-and-Trends/c/N-1z13vz4
Fellowship Focus	www.febcministries.org
FGBC World	www.fgbcworld.com
Fountain of Life	www.folmag.org
Free Methodist World Mission People	www.fmwm.org
Frontline Faith	www.OpenDoorsUSA.org
Fusion	www.randallhouse.com
Gideon, The	www.gideons.org
Glory Watch, The	www.billyebrim.org
Good News Rochester	www.thegoodnewswny.com/
Good News Today	www.theGoodNewsToday.org
Good News! (Salvation Army)	www.sagoodnews.org/
Good News, Etc.	www.goodnewsetc.com
Good News, The	www.goodnewsfl.org
Graphic, The	www.pepperdine-graphic.com/
HeartBeat / CMA	www.cmausa.org/cma_national/heartbeat.asp
Highway News and Good News	www.transportforchrist.org
Hilltop, The	hilltop.corban.edu
Holiness Today	www.holinesstoday.org
Home Times	www.hometimes.org
Hopegivers Journal	www.hopegivers.org
Horizon	www.randallhouse.com
Illinois Baptist	www.ibsa.org/illinoisbaptist
In Part	www.inpart.org
In Touch	www.intouch.org
InContact	www.pioneerclubs.org
inDeed Magazine	www.walkthru.org
Indian Life	www.newspaper.indianlife.org/
InSite	www.christiancampandconference.org
IPHC Experience	www.iphcexperience.com
Israel My Glory	www.foi.org
Ivy League Christian Observer	involve.christian-union.org/site/PageServer?pagename=ChristianObserverInfo
Just Between Us	www.justbetweenus.org
Kansas City Metro Voice	www.metrovoicenews.com
Kindred Spirit	www.dts.edu/ks
Lakeholm Viewer	lakeholmviewer.net/lvonline/
Launch Pad	www.teenmissions.org

Leadership Journal	www.leadershipjournal.net
Liberty Champion	www.libertychampion.com/
Light and Life Magazine	www.freemethodistchurch.org
Living Church, The	www.livingchurch.org
Lookout, The	www.lookoutmag.com/
Luke Society News	www.lukesociety.org
Lutheran Ambassador	www.aflc.org/lutheran-ambassador
Lutheran Witness, The	witness.lcms.org/pages/witness.asp
MannaEXPRESS	www.mannaexpressonline.com
Marketplace	www.marketplaceministries.com
Marketplace, The	www.meda.org/current-issue
Mars Hill	www.marshillonline.com/
Mennonite Brethren Herald	www.mbherald.com
Men's Ministries: The Mag	men.ag.org/
Message Magazine	www.abwe.org/news/message-archives/
Message Magazine	www.messagemagazine.org
Message of the Open Bible	www.openbible.org/publications_message.aspx
Messianic Perspectives	www.cjfm.org
Midwest Christian Outreach Journal	www.midwestoutreach.org
Ministry & Leadership	www.rts.edu/site/resources/M-L.aspx
Minnesota Christian Examiner	www.christianexaminer.com
Mishkan	www.mishkanstore.org
Mission Frontiers	www.missionfrontiers.org
Mission Gateway	www.intercedenow.ca/missiongateway.php
MomSense	www.mops.org
Mutuality	www.cbeinternational.org
NAE Insight	www.nae.net
New Frontier--The Salvation Army	www.newfrontierpublications.org/nf/
North Parker	www.northpark.edu/Alumni/North-Parker-Magazine
OMS Outreach	www.onemissionsociety.org
On Course	www.oncourse.ag.org
On Mission	www.onmission.com
One Magazine	www.onemag.org
Our Daily Bread	odb.org/
P31 Woman Magazine	wwwproverbs31.org
Pathway, The	mbcpathway.com
Pentecostal Messenger	www.pcg.org
Perspectives on Science and Christian Faith	www.asa3.org

Pilot	www.nwc.edu/pilot
Plain Truth, The	www.ptm.org
Point	www.convergeworldwide.org/
Priority!	www.prioritypeople.org
Priscilla Papers	www.cbeinternational.org
PRISM Magazine	www.evangelicalsforsocialaction.org/prism
Proclaim!	www.palau.org
Reformed Presbyterian Witness	www.RPWitness.com
Reformed Worship	www.reformedworship.org
Rescue	www.agrm.org
Rev. 7 Every Nation People Language	jaars.org
Risen Magazine	risenmagazine.com
Samaritan Ministries' Christian Health Care Newsletter	www.samaritanministries.org
Save Our World	www.cogwm.org
SCP Journal	www.scp-inc.org
SEND!	gospelforasia-reports.org/current-issue/#.UeGKTUBQ7zs
SHINE brightly	www.gemsgc.org
Sojourners	www.sojo.net
Southern Seminary Magazine	www.sbts.edu
Southern Tidings	www.southernunion.com/article/85/ministries/communication/southern-tidings
Southwest Kansas Faith and Family	www.swkfaithandfamily.org
St. Louis MetroVoice	www.metrovoice.net/
Stillpoint / Gordon College	www.gordon.edu/stillpoint
Tapestry	www.walkthru.org
Teachers of Vision	www.ceai.org
TEAMHorizons	horizons.team.org/
testimony	www.testimonymag.ca
Threefold Advocate	advocate.jbu.edu
Thriving Family	ThrivingFamily.com
Today's Pentecostal Evangel	www.pe.ag.org
Treasure	www.wnac.org
Triangle, The	www.bryantriangle.com/
TWR	www.twr.org/resources/magazine.html
Unfinished	www.themissionsociety.org/learn/multimedia/unfinished

VICTORY	victorymagazine.net
Voice & Hands	www.hcjb.org
Voice of Grace & Truth, The	www.thevoiceofgraceandtruth.com/
Voice of Prophecy News	www.vop.com
Voice of the Martyrs, The	www.persecution.com
Watchman Expositor, The	www.watchman.org
Wesleyan Life	www.wesleyanlifeonline.com/
West Michigan Christian News	www.westmichiganchristian.com/
Wheaton Magazine	www.wheaton.edu/Media-Center/Wheaton-Magazine
White Wing Messenger	cogop.org/ministries/messenger.html
Wisconsin Christian News	www.wisconsinchristiannews.com/
Word Alive	www.wycliffe.ca/wordalive/
Word of Faith, The	www.rhema.org
Words for the World	www.littworld.org
World Vision Magazine	www.worldvision.org/content.nsf/learn/mag-index
Worldwide	www.navigators.org/us/ministries/international/worldwide
Worldwide Challenge	www.worldwidechallenge.org
Wycliffe Associates Involved	www.wycliffeassociates.org
Young Salvationist	www.youngsalvationist.org/
YouthWalk	www.walkthru.org

Appendix B: Content Analysis Coding Information

Content Analysis Coding Items for Web Potentiality Exploitation

Coding key – Use "1" for yes, "0" for no.

EXISTENCE
1. Does the publication have its own website?

A – INTERACTIVITY
2. Site includes general e-mail address or contact form
3. Site lists personal e-mail addresses for staff members, (instead of just "info@")
4. Site provides email address or contact form for authors
5. Site provides email address of official sources
6. Site has discussion forum or chat room
7. Site features a quick poll or user survey
8. Letters to the editor displayed online
9. Other user content displayed online
10. Moderated comments
11. Unmoderated comments
12. Readers can rate the articles
13. Site invites user-submitted multimedia (photos, video)
14. Site provides links to publication's social media accounts (Facebook, Twitter, etc.)

B – HYPERTEXTUALITY
15. Hyperlink to another point within same article
16. Hyperlink to related content on same website
17. Hyperlink to related content on external website

18.	Hyperlink to original documental source
19.	Hyperlink to related media on same site
20.	Hyperlink to related media external site
21.	Site has social media recommendation links for individual articles

C – MULTIMEDIALITY

22.	Use of photos or drawings
23.	Use of slide-show
24.	Use of static infographics (charts, diagrams, etc.)
25.	Use of dynamic infographics (animated, interactive)
26.	Site features audio (podcast)
27.	Site features video

Weighting of Items for Content Analysis

Table B1

Weighting of Items in Content Coding Scheme

Interactivity		Hypertextuality		Multimediality	
General email address	5	Links within article	5	Photos/drawings	5
Personal email for staff	10	Links to content elsewhere on site	10	Slide show	10
Email/contact form for authors	10	Links to related content on external site	25	Static infographics	10
Email address for official sources	10	Links to original documental source	20	Dynamic infographics	25
Discussion forum / chat room/ blog / wiki	15	Links to related media on same site	10	Audio (podcast)	25
Quick poll or user survey	5	Links to related media on external site	20	Video	25
Letters to the editor	5	Social media recommendation links	10		
Other user content	5				
Moderated comments	5				
Unmoderated comments	10				
Readers can rate articles	5				
User-submitted multimedia	5				
Links to social media accounts	10				
13 items, weighted to create a 100-point scale	100	7 items, weighted to create a 100-point scale	100	6 items, weighted to create a 100-point scale	100

Content Analysis Codebook: Coding Criteria

Table B2

Content Analysis Codebook: Coding Criteria

Mark all items 1 (for yes, or presence of item) or 0 (for no, or absence of item)

No.	Item	Description
Existence		
1	Does the publication have its own website?	Is there a website specifically tied to the publication, containing at least some of the publication's content? If the publication is merely mentioned or for sale on a sponsoring organization's website, mark "0." If at least some publication content (even a sample issue PDF) is posted, mark "1."
Interactivity		
2	General email address or contact form	Is there some way of contacting the publication?
3	Personal email or contact form for staff members	Are addresses or contact forms for individuals listed, rather than merely generic addresses such as "info@" or "editor@"?
4	Personal email or contact form for authors	Are addresses or contact forms for content authors listed?
5	Email addresses of official sources	Does the site provide addresses to help readers contact sources for stories and/or organizations related to stories?
6	Discussion forum, chat room, user blog, wiki	Does the site include an extended interaction opportunity such as a discussion forum (beyond comments on articles), real-time chat room, opportunity for users to create blogs, or a wiki to which users can contribute?
7	Quick poll or user survey	Are users invited to fill out a survey or take a quick poll?
8	Letters to the editor displayed online	Are letters to the editor displayed? This could include letters from the print edition displayed as part of a PDF.
9	Other user content displayed online	Is other user-written content, such as user-submitted articles, displayed online? (This does not include photos and videos.)
10	Moderated comments	Users can post comments on articles, but those comments are not visible online until they have been approved by a moderator.

11	Unmoderated comments	Users can post comments on articles, and those comments are visible immediately.
12	Readers can rate the articles	Can readers give a rating to articles? (Perhaps stars or point values.) These ratings might appear with the article, and might influence the visibility of an article on the site.
13	User-submitted multimedia	Does the site displays user-submitted multimedia, such as photos or videos?
14	Links to publication's social media	Does the site include links to the publication's social media accounts, such as Faceook or Twitter?
Hypertextuality		
15	Link to other point in same article	Does an article on the site contain links that help you move around to different sections of the article?
16	Link to related content on same site	Does the site contain links that help the reader find other content on the site related to the content they are currently viewing?
17	Link to related content on external site	Does the site include links to related content that appears on external websites?
18	Link to original documental source	Does the site include links to source documents used or mentioned in a story?
19	Link to related media on same site	Does the site include links to video, audio or other forms of multimedia on the same site which relate to the content a reader is viewing?
20	Link to related media on external site	Does the site include links to video, audio or other forms of multimedia on other sites (external websites) which relate to the content a reader is viewing?
21	Social recommendation links for individual articles	Does the site include social recommendation links which make it easy for readers to share site content, perhaps by tweeting about it or adding a status update on Facebook?
Multimediality		
22	Photos or drawings	Does the site contain photos or illustrations (such as drawings)?
23	Slide show	Does the site contain a slide show? This might display multiple photos connected with a single story, or might be used to feature a number of stories from the site.
24	Static infographics	Does the site include static (non-interactive) information graphics, such as charts, graphs, diagrams or maps?
25	Dynamic infographics	Does the site include infographics that are animated, or that redraw themselves based on user input?
26	Audio	Does the site feature any audio content, such as a podcast?
27	Video	Does the site feature any videos?

Content analysis measures of intercoder reliability

Table B3

Intercoder reliability

Category	Item	% Agreement	Krippendorf's Alpha
Existence			
	Does the publication have its own website?	100	1
Interactivity			
	General email address or contact form	95	0.891
	Personal email or contact form for staff members	90	0.832
	Personal email or contact form for authors	100	0.737
	Email addresses of official sources	95	0.841
	Discussion forum, chat room, user blog, wiki	100	Undefined
	Quick poll or user survey	95	0.882
	Letters to the editor displayed online	95	0.841
	Other user content displayed online	95	0.841
	Moderated comments	95	0.924
	Unmoderated comments	95	0.858
	Readers can rate the articles	100	1
	User-submitted multimedia	100	1
	Links to publication's social media	85	0.779
	Overall interactivity measure		**0.961**

Category	Item	% Agreement	Krippendorf's Alpha
Hypertextuality			
	Link to other point in same article	100	1
	Link to related content on same site	95	0.903
	Link to related content on external site	90	0.817
	Link to original documental source	100	1
	Link to related media on same site	100	Undefined
	Link to related media on external site	100	Undefined
	Social recommendation links for individual articles	95	0.926
	Overall hypertextuality measure		**0.876**
Multimediality			
	Photos or drawings	100	1
	Slide show	95	0.924
	Static infographics	100	1
	Dynamic infographics	100	1
	Audio	95	0.916
	Video	95	0.929
	Overall multimediality measure		**0.976**

Appendix C: Content Analysis Data Tables

Table C1

Potentiality Exploitation Percentage Scores by Publication

R=Resource level (1-lowest, 4-highest)

E=Editorial freedom (0-official, 1-independent)

Publication title	R	E	Interactivity	Hypertextuality	Multimediality
ACTION Magazine--Men For Missions Int'l	2	0	0	0	0
Advent Christian Witness	1	0	0	0	0
Adventure Guide	1	0	0	0	0
AFA Journal	4	0	0	0	15
Alabama Baptist	4	0	20	10	30
Alliance Life	3	0	10	0	30
American Bible Society Record	4	0	5	10	30
ANM World Missions	2	0	0	0	0
Answers Magazine	4	0	5	10	65
APU Life	4	0	45	10	5
Asbury Collegian	1	1	25	20	30
Asbury Herald, The	3	0	5	0	5
Associate Reformed Presbyterian, The	1	0	15	0	5
Banner, The	4	0	40	55	30
Baptist Bulletin	2	0	5	65	65
Baptist Messenger	4	0	30	65	55
Beacon, The	1	1	35	10	5

Biola Magazine	4	0	35	75	30
Blue Ridge Christian News	2	1	15	0	5
Books & Culture	2	1	20	55	30
Brink, The	1	0	30	10	40
byFaith	2	0	30	35	5
Cadet Quest	1	0	0	0	0
CAMINO: Sharing the Journey Together	2	0	15	20	40
Campbell Times, The	1	1	40	35	30
Cardinal & Cream	1	1	20	10	75
Central Florida Episcopalian	3	0	20	10	65
Christian Communicator	1	0	0	0	0
Christian Examiner	4	1	30	35	30
Christian Home & School	4	0	15	45	5
Christian Journal, The	2	1	5	0	5
Christian Leader	2	0	25	25	5
Christian Mission	2	0	5	0	5
Christian News Northwest	3	1	15	25	15
Christian Research Journal	2	0	15	10	55
Christian School Education	2	0	5	0	5
Christian Standard	3	0	25	65	5
Christianity Today	4	1	30	65	40
ChristianWeek	3	1	25	35	5
Church Advocate, The	2	0	5	0	5
Church Finance Today	2	1	15	10	5
Church Law & Tax Report	2	1	15	10	50
Church of God	3	0	20	0	5

Evangel					
Citizen	4	0	15	10	65
Clarion, The / Bethel University	1	1	20	10	5
Clubhouse	4	0	0	0	40
Clubhouse Jr.	4	0	0	0	15
Column, The	1	1	35	0	40
Command	2	0	5	10	5
Comment magazine	1	1	50	65	30
Compassion Magazine	1	0	20	10	65
Covenant Companion, The	2	0	35	10	30
Crux	1	0	0	0	0
Daily Walk, The	2	0	5	0	30
Decision	4	0	20	10	65
Direction	1	0	0	0	0
Dispatch	3	0	15	45	75
Do Well	4	0	15	0	55
Echo, The	1	1	35	45	50
EFCA Today	2	0	25	35	30
Encompass	2	0	15	0	5
Enrichment Journal	3	0	15	0	30
Evangelical Advocate, The	1	0	25	10	30
Evangelical Missions Quarterly	1	1	25	30	15
Explorer's Guide	1	0	5	0	30
Facts & Trends	4	0	35	65	15
Fellowship Focus	1	0	0	0	0
FGBC World	3	0	25	35	5
Fountain of Life	2	1	5	0	5
Free Methodist World Mission People	1	0	30	25	5
Frontline Faith	3	0	5	25	5
Fusion	3	0	0	0	0
Gideon, The	4	0	0	0	0

Glory Watch, The	3	0	0	0	0
Good News Rochester	2	1	5	25	5
Good News Today	3	1	5	0	30
Good News! (Salvation Army USA Eastern Territory)	3	0	15	0	15
Good News, Etc.	3	1	15	0	5
Good News, The	4	1	45	0	15
Graphic, The	1	1	20	10	30
HeartBeat / CMA	3	0	5	25	55
Highway News and Good News	3	0	20	0	5
Hilltop, The	1	1	60	55	65
Holiness Today	3	0	35	55	75
Home Times	1	1	0	20	5
Hopegivers Journal	1	0	0	0	0
Horizon	2	0	0	0	0
Illinois Baptist	2	0	20	0	40
In Part	3	0	25	45	15
In Touch	4	0	25	55	55
InContact	1	0	0	0	0
inDeed Magazine	2	0	10	0	30
Indian Life	2	1	15	10	5
InSite	2	0	0	0	0
IPHC Experience	3	0	15	0	40
Israel My Glory	4	0	15	0	5
Ivy League Christian Observer	2	0	5	0	5
Just Between Us	2	0	15	0	5
Kansas City Metro Voice	4	1	35	25	5
Kindred Spirit	3	0	25	30	55
Lakeholm Viewer	1	1	25	10	15
Launch Pad	4	0	0	0	0
Leadership Journal	4	1	25	20	30
Liberty Champion	2	1	45	10	30

Light and Life Magazine	3	0	40	10	30
Living Church, The	1	1	30	20	30
Lookout, The	4	0	20	10	5
Luke Society News	4	0	0	0	0
Lutheran Ambassador	1	0	15	0	5
Lutheran Witness, The	4	0	35	35	5
MannaEXPRESS	2	1	32	0	30
Marketplace	3	0	15	0	30
Marketplace, The	1	0	25	0	5
Mars Hill	1	1	25	10	5
Mennonite Brethren Herald	3	0	25	10	5
Men's Ministries: The Mag	3	0	15	10	55
Message Magazine	4	0	25	10	5
Message Magazine	4	0	50	20	5
Message of the Open Bible	1	0	15	0	30
Messianic Perspectives	3	0	15	10	40
Midwest Christian Outreach Journal	1	1	30	0	5
Ministry & Leadership	3	0	25	0	5
Minnesota Christian Examiner	3	1	40	35	5
Mishkan	1	0	0	0	0
Mission Frontiers	4	0	55	45	5
Mission Gateway	2	0	5	0	5
MomSense	4	0	5	0	30
Mutuality	1	0	0	0	0
NAE Insight	1	0	5	0	5
New Frontier--The Salvation Army	3	0	35	0	40
North Parker	3	0	5	55	30
OMS Outreach	4	0	0	0	0

On Course	4	0	15	55	55
On Mission	4	0	15	45	55
One Magazine	4	0	25	25	5
Our Daily Bread	4	0	15	20	30
P31 Woman Magazine	2	0	0	0	0
Pathway, The	2	0	15	10	15
Pentecostal Messenger	1	0	15	0	5
Perspectives on Science and Christian Faith	1	1	35	0	15
Pilot	3	0	15	0	5
Plain Truth, The	2	1	25	25	55
Point	4	0	15	25	40
Priority!	3	0	30	10	5
Priscilla Papers	1	0	0	0	0
PRISM Magazine	1	0	0	0	0
Proclaim!	4	0	0	0	0
Reformed Presbyterian Witness	1	0	5	0	5
Reformed Worship	1	0	40	55	65
Rescue	1	0	0	0	0
Rev. 7 Every Nation People Language	3	0	0	0	0
Risen Magazine	3	1	15	0	30
Samaritan Ministries' Christian Health Care Newsletter	3	0	25	65	30
Save Our World	4	0	0	0	0
SCP Journal	2	1	5	0	30
SEND!	4	0	15	10	5
SHINE brightly	3	0	0	0	0
Sojourners	3	1	45	30	55
Southern Seminary Magazine, The	3	0	15	20	55

Southern Tidings	4	0	5	25	5
Southwest Kansas Faith and Family	2	1	5	35	5
St. Louis MetroVoice	3	0	5	25	5
Stillpoint / Gordon College	3	0	15	55	30
Tapestry	1	0	10	0	30
Teachers of Vision	2	0	5	45	55
TEAMHorizons	2	0	15	20	40
testimony	2	0	15	10	5
Threefold Advocate	1	1	5	0	30
Thriving Family	4	0	15	20	40
Today's Pentecostal Evangel	4	0	15	0	30
Treasure	1	0	0	0	0
Triangle, The	3	1	35	0	55
TWR	3	0	15	0	30
Unfinished	2	0	15	25	5
VICTORY	2	1	15	0	5
Voice & Hands	2	0	15	10	55
Voice of Grace & Truth, The	2	1	15	25	5
Voice of Prophecy News	3	0	15	0	55
Voice of the Martyrs, The	4	0	15	45	40
Watchman Expositor, The	2	1	25	10	0
Wesleyan Life	3	0	45	65	40
West Michigan Christian News	2	1	25	25	30
Wheaton Magazine	3	0	20	0	30
White Wing Messenger	2	0	15	0	5
Wisconsin Christian News	2	1	20	35	55
Word Alive	3	0	15	10	55
Word of Faith, The	4	0	15	0	55

Words for the World	1	0	25	10	5
World Vision Magazine	4	0	25	10	40
Worldwide	1	0	15	10	30
Worldwide Challenge	4	0	40	25	40
Wycliffe Associates Involved	4	0	15	0	5
Young Salvationist	4	0	20	10	15
YouthWalk	3	0	15	0	30

Table C2

Content Analysis Item Frequency (among publications with their own web presence)

Item (arranged by frequency)	Occurrences	Percent of sites
Photos or drawings	161	99.4%
General email address or contact form	152	93.8%
Links to publication's social media	109	67.3%
Social recommendation links for individual articles	82	50.6%
Video	81	50.0%
Link to related content on external site	52	32.1%
Personal email or contact form for staff members	43	26.5%
Link to related content on same site	35	21.6%
Slide show	33	20.4%
Audio	32	19.8%
Moderated comments	31	19.1%
Unmoderated comments	27	16.7%
Letters to the editor displayed online	26	16.0%
Link to original documental source	17	10.5%
Personal email or contact form for authors	16	9.9%
Static infographics	13	8.0%
Quick poll or user survey	12	7.4%
Link to related media on external site	10	6.2%
Email addresses of official sources	9	5.6%
Other user content displayed online	9	5.6%
Link to related media on same site	6	3.7%
Readers can rate the articles	5	3.1%
User-submitted multimedia	4	2.5%
Dynamic infographics	4	2.5%

Discussion forum, chat room, user blog, wiki	2	1.2%
Link to other point in same article	0	0.0%

Appendix D: Survey Instrument

A 20-question online survey was administered through the online service

SurveyMonkey. The questions and allowed response type are below.

Table D1

Survey Instrument

Question	Permitted responses
1. Please enter your participant code number.	Integer
2. How many employees have significant responsibilities only on the print side of your publishing operation?	Integer
3. How many employees have significant responsibilities only on the digital side of your publishing operation?	Integer
4. How many employees have significant responsibilities in both print and digital operations?	Integer
5. Is content for your website primarily generated by the print staff, by a separate web staff, or by a combination?	Multiple choice: print staff, web staff, combination
6. How many unique visitors does your site attract in an average month?	Integer
7. Does your organization function as the voice of a ministry or organization that is not primarily about periodical publishing?	Yes / No

8. Does your website generate enough revenue to cover its costs, or is it subsidized?	Yes/ No
9. Does the parent publication generate enough revenue to cover its costs, or is it subsidized?	Yes / No
10. Does the website generate revenue through ad sales?	Yes / No
11. Does the website generate revenue through product sales?	Yes / No
12. Does the website generate revenue by charging for access to its content?	Yes / No
13. How long has the principle website decision maker worked for the organization?	Integer
14. How old is the principle website decision maker?	Integer
15. What is the highest degree earned by the principle website decision maker?	Multiple choice: high school; some college; college degree; some grad school; master's; doctorate
16. When was your publication founded?	Integer
17. When did your website launch?	Integer
18. When was your parent organization founded?	Integer
19. Did the launch of the website lead to changes in your print product? (Apart from minor changes like including a web address in the magazine.)	Yes/ No

20. Do you envision a day when the online product completely replaces the print product?	Yes/ No