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# The Effective Design of Church Web Sites: Extending the Consumer Evaluation of Web Sites to the Non-Profit Sector

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Web sites are becoming an important gateway for churches to attract new members and communicate with the membership. Research has focused on developing guidelines for web site design in the for-profit world, but little has been said about non-profit web sites. This study uses an established instrument to elicit over 1100 responses from parishioners who evaluated a random sample of 250 church web sites. The results provide some guidance about which features are most valued by church members.

**Keywords** non-profit web sites; church web sites; best practices; TAM model; web site design

### INTRODUCTION

Church web sites have become a critical component of church life. This is true for current members as well as potential members. Technology is a mainstay in most people's lives. Members of church congregations regularly turn to the internet to find the information that they need. An effective web site can provide that information and keep members engaged with the church community. Non-members are no different, making an affordable church web site one of the best modern outreach tools available. This is especially important in this time of both declining church membership and the continued pattern of church switching. The Yearbook of American & Canadian Churches, in its 2011 yearbook, reported that membership in 9 of the 15 largest denominations responding reported decreases in membership from 2009 to 2010 (Lindner, 2011). Furthermore, according to the Pew Forum on Religion and Public Life's (2011) "U.S. Religious Landscape Survey," 44% of adults have either switched religious affiliation, moved from being unaffiliated with any religion to being affiliated with a particular faith, or dropped any connection to a specific religious tradition altogether. They also found that one in four Americans between the age of 18 and 29 say they are not affiliated with any particular religion.

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One study has shown that the web site is the first place that many people look when searching for a place of worship (Goodmanson, 2009), whether they have moved to a new city or they are considering changing churches. It is especially true for younger members, many of whom would never visit a church without first having viewed its web site to determine if it is a place where they could be comfortable. Web site features such as videos or podcasts of services could be effective in providing this information. A church has only one chance to make a first impression, and for many, that first impression is through their web site. One researcher has also called for more research on the ways that different churches use or "spiritualise the Internet" (Campbell, 2005).

Just as in business, the church web site serves as a "front page" for the church, providing important factual information, such as schedules and directions. But it can be much more than that. The web site can serve as a window into the heart of a church. It provides the church with an opportunity to express its values and culture. A web site can be a tool for communicating a church's vision. It can reflect the core of who they are and what they are about.

Most churches have a web presence of some kind (Barna Group, 2008). Unfortunately, a large number of them fail to reach their potential. Often, a church creates a web site in response to the social pressure to establish a presence on the internet. Too often, the web site is nothing more than a glorified Sunday bulletin. Little effort is made to engage the online visitor.

When done well, a church web site can serve as an extension of the church's office. This is particularly useful when a church has grown to a certain size and needs to find ways to care for the needs of its members while easing the burden on the staff. An effective web site can facilitate communication, collaboration, and delegation. It can offer online services such as event promotion and registration, prayer request submissions, targeted e-mail distribution, and much more. Of course, for all its potential benefits, it needs to be emphasized that a church web site can never be a substitute for face-to-face contact at both worship service and fellowship activities.

One issue that churches must address in creating web sites is the recognition that the web site needs to serve multiple audiences. The web site can be an important tool for facilitating communication with current members. It also needs to be an evangelization tool and be regarded as inviting by potential members. At the same time, it should be relevant to the various demographics and ethnicities that comprise the church's current and potential membership.

A second issue is that churches often don't have the resources to create complicated web sites that use e-commerce features. While a particular church might desire more complicated features, the necessary resources might not be available. In order to control costs, some churches utilize their Church Management System (CMS). Many of these not only assist churches in their accounting, payroll, membership tracking, and scheduling, but also provide free web site and e-mail accounts. As an alternative there are a number of sites on the internet (www.churchsquare.com and www.discountchurchwebsites.com are two examples) that service the "do it yourself" market and allow churches to purchase a template that the church webmaster (typically a staff member or volunteer) can use to update the content. While not state of the art, these templates serve as a cost-effective approach for churches just starting their own web sites.

The role of the church webmaster should not be overlooked. In addition to keeping the web site's content up to date, the webmaster needs to understand the different options available for the church's web site and which of these are most appropriate for this particular congregation. In larger churches, the webmaster might be a paid IT professional. However, in many churches, because of cost considerations, the webmaster, as noted above, is a staff member or a congregation member serving as a volunteer. One possible advantage of this latter approach is that the webmaster may have a better sense of the congregation's needs and desires for their web site.

This study examines the various design issues involved in constructing an effective web site using measures previously identified in the for-profit e-commerce research. This existing body of web site design research was used as a guide for our analysis of church web sites. It was then applied to a random sample of church web sites taken from a national sample of U.S. Catholic parishes. In the section that follows, the characteristics of an effective church web site are presented. Following that, the sample of parishes is described and the analysis of their web sites is undertaken. A national survey of parishioners forms the basis for the next section of the article, which identifies the web site characteristics that are most valued by parishioners. The article concludes with a series of observations. This article represents the first attempt to rigorously study how churches actually use web sites and to better define what users of non-profit web sites find most useful on these sites.

### **BACKGROUND TO THE STUDY**

The study of effective web site design has been an important topic of research for some time. Up until now however, this research has focused almost exclusively on the for-profit world. However, as usage of the web grows, web site design is becoming more and more important for the non-profit sector as well. Past researchers have attempted to derive measures and standards for web site design. Some have tried to determine the critical success factors (CSF) for web site design (Korgaonkar, O'Leary, & Silverblatt, 2009) by surveying web site developers. Others have surveyed web site consumers directly to see what they found to be most successful (Aladwani & Palvia, 2002; Cox & Dale, 2002; Ivory & Hearst, 2002; Kim & Stoel, 2004; Loiocano, Watson, & Goodhue, 2007; Long & Chiagouris, 2006; Muylle, Moenaart, & Despontin, 2004; Palmer, 2002). All of this research focused exclusively on the for-profit side of e-commerce.

Much less has been written about the effective design of non-profit web sites. Non-profit organizations such as churches and charities have been slower to realize the benefits of the internet, but as the cost of developing web sites continues to decrease, they are increasingly looking at how they can integrate web sites into their overall mission. One study in the U.K. looked at how environmental charities could use web design best practices to better market themselves on the internet (Wenham, Stephens, & Hardy, 2003). Some informal studies of the impact of the web on churches have been published in trade publications such as *Christian Computing*. The only other academic publication was a conference paper that described the increasing importance of the internet for churches in general (Wyche, Hayes, Harvel, & Grinter, 2006).

The immediate goal of this research was to conduct a formal study of church web sites in order to better gauge their effectiveness and overall usage. Since there was almost no formal existing research on this specific topic, it was decided to incorporate the best research instruments from the for-profit web site design research. All of the various for profit studies cited above broke web site design down into multiple dimensions that usually included content and usability factors.

One of the most thorough and commonly-accepted instruments is the one developed by Aladwani and Palvia (2002). Like the WebQual instrument (Loiocano et al., 2007), this instrument has been extensively tested and validated. It breaks the concept of web site quality down into three main dimensions: technical adequacy, web content, and web appearance. These dimensions are used to group a total of 14 other contributing factors that have been identified in the literature and via interviews with various web professionals. The dimensions and factor sets were further refined using the Delphi technique.

For the purposes of this study, the Aladwani-Palvia instrument was modified and updated slightly to better reflect the concerns of church users and also to reflect changes in technology. While technical adequacy issues would presumably be important to all web site users, content would certainly vary. For example, church members would not be using their church's web sites for some of the common commercial uses of web sites, such as comparing prices. Drawing upon their

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combined expertise in information technology, the article coauthors (working in conjunction with one church IT administrator) evaluated this instrument for currency and made a few minor changes. This entailed dropping factors such as web page load time and adding search engine ranking to the instrument. Besides using it to evaluate the overall quality of the web site, many purely descriptive questions were added (e.g., yes/no questions such as "Were directions to church posted?"). These questions were deemed of interest in tracking the overall evolution of church web site functionality. Once the aforementioned panel was satisfied with the modified instrument, they used it to independently evaluate 10 church web sites. Their ratings were then compared to see how consistent they were for the same set of church web sites.

# EXTENDING THE ALADWANI-PALVIA INSTRUMENT TO CHURCH WEB SITES

The analysis using the modified Aladwani-Palvia instrument was performed on a sample of U.S. Catholic parishes drawn from the National Parish Inventory (NPI) that is maintained by the Center for Applied Research in the Apostolate at Georgetown University. Of the approximately 19,000 U.S. Catholic parishes, the NPI contains information on 18,697 of them. A random sample of 250 parishes was chosen for analysis. Table 1 compares the parishes in the random sample with the parishes in the entire NPI.

From the table, we can see that the parishes in our sample tend to be about the same size as parishes in the overall sample, both in terms of number of registered households and paid staff. The parishes in the sample are growing at a similar pace.

Each of the parish web sites in the sample was analyzed by a member of the team of researchers on two general dimensions: the extent to which it is user-friendly and web site content. The findings on each of these dimensions are reported separately.

### **Web Site Quality Dimensions**

The Aladwani and Palvia (2002) instrument identified three major categories of characteristics for web site quality. The Aladwani-Palvia instrument was especially appropriate for this study because it was designed to capture key web site

TABLE 1 Comparison of parishes in random sample with parishes in entire NPI sample

Characteristic	Random Sample	Entire Sample
Average Registered Households	1164	1123
Average Paid Staff Baptisms/Funerals	4.04 2.00	4.49 1.92

TABLE 2 Quality dimension ratings (scale 1 to 7)

Characteristic	Rating
Technical adequacy	
Ease of navigation	5.33
Interactivity (e.g., submission of forms)	4.33
Search engine list accuracy (e.g., Google)	6.21
Valid links	5.73
Web content presentation	
Usefulness	5.14
Clarity	5.16
Currency	5.33
Conciseness	5.17
Accuracy	5.26
Web appearance	
Attractiveness	4.86
Organization	4.98
Effective use of fonts	4.83
Effective use of colors	4.70
Innovative use of multimedia (e.g., photos videos, animation, audio)	3.91

design characteristics from a user's perspective. Through their literature review, they compiled key web site characteristics. This was then refined by a team of scholars using the Delphi Method. After three rounds, 55 web site quality characteristics remained. Aladwani and Palvia then tested these for validity. After some minor modifications and updates, the Aladwani and Palvia instrument was used as the basis for analyzing non-profit web sites. Users were then asked to rate each of the characteristics using a scale of 1 to 7. Summary results for the three dimensions are presented in Table 2.

Among the factors which the researchers thought that Catholic parishes were strongest included accurate listings on search engines and content that was presented in a useful, clear, and accurate manner. Although church webmaster resources are sparse, the existing hyperlinks in the web sites were accurate and the content was generally current. One of the primary criticisms of many church web sites is that they are not kept up to date, primarily because of a shortage of staff (Dolan, 2007). This was not the case for this sample of parishes.

The researchers gave generally low ratings for the web sites' appearance. They tended to not be particularly attractive or well organized. By far, the lowest rating went for their use of multimedia. Parishes were not very innovative in their use of media. As noted above, many parishes feature just one picture on their web site—the church building. Few parishes in this sample took advantage of innovative technology to reveal who they are and what they value. The lack of innovation could be a direct result of a scarcity of staff and resources. It was clear that some parishes had outsourced the building and design of their

web sites—perhaps an indication that the pastor saw the value it could provide.

Another low rating was for interactivity. One of the primary benefits of a web site is that it allows two-way communication. Parishioners can download and submit forms, register for events, and so forth. Unfortunately, the parishes in the sample tended to not take advantage of this important feature. Interestingly, the few sites that did have highly interactive features were often linked to CMSs.

If one could sum up the findings for the quality analysis instrument, it appears that many parishes use their web sites as not much more than glorified church bulletins. Information is provided in an organized, concise, and clear manner, as one would expect to see in the church bulletin. Little attempt is made to utilize some of the strengths of a web site, such as its ability to enable interactivity or to provide innovative multimedia content. Neither of these features is available with a church bulletin, and neither is typically employed on the church's web site. A similar theme emerges when web site content is examined.

### **Specific Web Site Features**

While the ease of use dimension required the researchers to make judgments to rate each feature on a scale of 1 to 7, the analysis of the specific web site features merely asked the researcher to indicate whether a particular feature appeared or not, without judging its quality. As with the quality dimensions, the content of the web sites is separated into several categories. This was done so as to gain a more complete picture of the current state of church web sites and also to set a baseline for the further study of the evolution of church web sites. The results are displayed in Table 3.

Focusing primarily on those topics that appear on more than half of the parish web sites in our sample, the vast majority are informational—one-way from the parish to the parishioner. A total of fourteen topics appeared on more than half of the web sites. Of these, nine would be considered merely informational, including the posting of Mass times, parish financial information, the Sunday bulletin, and staff profiles. Four are links to other sites, such as the Vatican or opportunities to serve the poor. The other concerns the provision of age-specific content. Only the provision of links to other sites and the provision of age-specific content touch the potential of the parish web site. The nine informational items reduce the web site to not much more than a glorified Sunday bulletin or parish newsletter.

At the other extreme are those topics that appear fewer than 10% of the time. There were also 14 of these. Nine of these involve innovative uses that approach the full potential of the web site. These include the ability to complete and submit sacramental forms interactively, the use of video games to instruct in the faith, the provision of chat rooms, the ability to hold meetings online, and links to social networks. Other innovative uses of the web site, which appear on a small

TABLE 3
Specific website feature evaluation

Content item	Percent of websites
General	
Special log-in for parish members	8.0
Search facility for site	19.6
Hover capability over links	6.0
Directions to parish (map)	64.8
Age-specific content	67.2
Worship	
Post sermons	15.2
Post daily devotional	20.0
Post mass times	95.6
Post times for other worship events	61.2
Post sacramental schedules	74.4
Sacramental forms available to print	12.4
Sacramental forms interactive	2.0
Webcasts/podcasts of mass	7.6
Electronic giving available	16.4
Security for electronic giving	0.0
Teaching	
FAQs about beliefs	13.6
Video games, trivia, etc. to instruct in faith	2.8
Links to scripture study or other devotional sites	28.8
	12.4
On-line learning communities Catechesis	
Rite of Christian initiation for adults	31.2 60.8
	00.8
Evangelization Links to Vatican or diocese	62.0
Links to valical of diocese  Links to other faith-related sites	72.8
	78.8
Links to religious education services	6.0
Links to commercial vendors selling religious books and other goods	0.0
Newcomer's page	36.8
Community	
Service/volunteering	5.6
Links to opportunities to serve the poor	58.4
Links to non-faith related volunteer opportunities	19.6
Space for prayer requests	14.0
FAQs about parish history	56.0
Blogs/on-line forums allowing for responses	10.4
by parishioners	10.1
E-mail link for questions/comments	41.2
Links to counseling services for parishioners	22.4
Links to other services for parishioners	31.2
Pastor's page	28.0
Post mission statement	49.2

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TABLE 3 (Continued)

Content item	Percent of websites	
Information on parish ministries with contact information	79.2	
Post schedules, meeting minutes, and other internal communications	29.2	
On-line calendar available	57.2	
Ability for parishioners to sign up for activities	14.0	
Post parish financial information	41.2	
Post Sunday bulletins	75.2	
Staff profiles and position descriptions	71.6	
Photos/video album of parish activities	37.2	
Photos used to communicate welcome	20.8	
Chat rooms available	0.4	
Ability to hold meetings on-line	0.0	
Site makes use of Wikis	0.4	
Site makes use of RSS feeds	6.4	
Social network links	1.2	
Parish newsletter posted	14.8	
Multilingual content	20.8	

minority of parish web sites, includes blogs and online forums (10.4%), the ability for parishioners to sign up for activities online (14%), the capability to search the site (19.6%), and a video album of parish activities (37.2%). Clearly, parish web sites are underutilized when it comes to providing content that taps the full potential of the internet.

# ANALYSIS OF RESULTS—CONSUMER EVALUATIONS OF CHURCH WEB SITES

One would be hard-pressed to find a web site user who doesn't value the technical adequacy, web content presentation, and web site appearance characteristics listed above. But some of these might be more important to users than others.

With limited technology budgets, parishes must make some choices as to what technical characteristics they should be putting on their web site. To address this issue, a national sample of Catholic parishioners was asked to rate the random sample of parish web sites. The parishioners were selected from 12 parishes in 12 different regions of the United States, as defined by the U.S. Conference of Catholic Bishops. Pastors in each of these parishes were asked to select 10 parishioners who would each evaluate 10 different parish web sites on the basis of their content. Some parishioners failed to submit their ratings, so a total of 1104 individual web site ratings were received for the 250 parish web sites in the sample. Each web site was rated by at least three parishioners. The average age

of those submitting completed ratings was 49. Sixty percent were women. As a group, they were highly educated, with 86% possessing a college degree. By comparison, the 2010 Faith Communities Today survey of 395 U.S. Catholic parishes conducted by the Cooperative Congregations Study Partnership (Thumma, 2011) found that the median age of active Catholic parishioners was 51, with 60% being women and 40% possessing college degrees. The average rating awarded to the parish web sites, on a scale of 100, was 82.5.

# **Web Site Quality Dimensions**

The analysis was conducted by employing partial correlation analysis between the parishioners' rating scores and each of the dimension characteristics listed in Table 2. The partial correlations were calculated after controlling for the respondents' age, gender, and education. The correlation between parishioner rating and age was –.09, between rating and gender was .23, and between rating and education was –.07. Older and more educated parishioners tended to rate the web sites lower, women tended to rate them more highly. The results can be found in Table 4.

As expected, all of the technical characteristics were significantly related to the parishioners' ratings. Parishioners value a technically effective, user-friendly web site. But some characteristics are more highly valued. Possessing valid links and usefulness both exhibited partial correlation coefficients greater than .20. Displaying current information was also highly valued.

TABLE 4
Quality dimension partial correlations with parishioner rating

Characteristic	Correlation Coefficient
Technical Adequacy	
Ease of Navigation	.11**
Interactivity (e.g., submission of forms)	.18**
Search Engine List Accuracy (e.g., Google)	.07*
Valid Links	.21**
Web Content Presentation	
Usefulness	.21**
Clarity	.18**
Currency	.19**
Conciseness	.16**
Accuracy	.18**
Web Appearance	
Attractiveness	.15**
Organization	.13**
Effective Use of Fonts	.16**
Effective Use of Colors	.12**
Innovative Use of Multimedia (e.g., photos videos, animation, audio)	.17**

Note: \*Significant at .05 level; \*\*Significant at .01 level.

At the same time, the web site appearance characteristics generated some of the lower correlation coefficients. The least important, based on its correlation coefficient, was an accurate listing on a search engine such as Google. Surprisingly, ease of navigation was also rated relatively low.

# **Specific Web Features**

As with the technical characteristics, it would be anticipated that the vast majority of web site content items would be valued by parishioners. But, again, with limited budgets and web site capacity, parishes need to determine which content items are most valued by parishioners. Table 5 presents the partial correlations, again controlling for age, education, and gender, from our parishioner survey on the web site content items listed in Table 3.

A number of observations emerge from Table 5. First, some characteristics that one might have thought to be valued were not significantly related to parishioner ratings. Some of these involve posting general information, such as times for liturgical events other than Sunday Mass, committee schedules and meetings, the Sunday bulletin, a pastor's message, and the parish newsletter.

However, many of the characteristics that were not significantly related to parishioner ratings involved features that would allow the parish to make full use of the available technology. These include interactive opportunities such as special log-ins for parish members, the ability to interactively complete forms for sacramental registration or to sign up for activities, means to instruct in the faith through the use of games and FAQs about beliefs, and opportunities to communicate with other parishioners through posting prayer requests, participating in online forums and chat rooms, as well as with the wider community through social network links, links to online learning communities, and links to service/volunteering opportunities. One possible explanation for these findings is that parishioners have not been fully educated in the potential contributions that a parish web site can make in enriching the parish community.

Which content features were highly valued? The most highly valued (as measured by the partial correlation coefficient) was the posting of an online calendar of parish events (although as noted above, the ability to register for events online was not valued). This was followed by profiles and position descriptions for staff members and an e-mail link for questions and comments. Also highly valued were information on parish ministries and their contact information. All of these relate to parishioners' ability to be kept up to date on parish activities.

Along those same lines, some community-building information was valued, such as photos or video albums of parish activities and webcasts or podcasts of Sunday Mass. Agespecific content (presumably intended for youth and young adults) was highly rated. Only a few links were viewed as valuable, notably those to other faith-related sites and to other services that might be of interest to parishioners.

TABLE 5
Website features partial correlations with parishioner rating

	Coefficient
General	
Special log-in for parish members	.00
Search facility for site	.12**
Hover capability over links	.01
Directions to parish (map)	.08**
Age-specific content	.13**
Worship	
Post sermons	.09**
Post daily devotional	.09**
Post mass times	.09**
Post times for other worship events	.05
Post sacramental schedules	.09**
Sacramental forms available to print	.07*
Sacramental forms interactive	.01
Webcasts/podcasts of mass	.10**
Electronic giving available	.08**
Teaching Teaching	.00
FAQs about beliefs	.03
Video games, trivia, etc. to instruct in faith	.05
Links to scripture study or other devotional	.01
sites	.01
On-line learning communities	.01
Catechesis	.05*
Rite of Christian initiation for adults	.09**
Evangelization	
Links to Vatican or diocese	.07*
Links to other faith-related sites	.13**
Links to religious education services	.00
Links to commercial vendors selling	.08*
Religious books and other goods	
Newcomer's page	.08*
Community	
Service/volunteering	.04
Links to opportunities to serve the poor	.04
Links to non-faith related volunteer	.06*
opportunities	
Space for prayer requests	.06
FAQs about parish history	.07*
Blogs/on-line forums allowing for responses	.06
by parishioners	
E-mail link for questions/comments	.14**
Links to counseling services for parishioners	.07*
Links to other services for parishioners	.10**
Pastor's page	.02
Post mission statement	.11**
Information on parish ministries with contact	.10**
information	.10

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TABLE 5 (Continued)

Content Item	Correlation Coefficient
Post schedules, meeting minutes, and other internal communications	.03
On-line calendar available	.15**
Ability for parishioners to sign up for activities	.05
Post parish financial information	07*
Post Sunday bulletins	.05
Staff profiles and position descriptions	.14**
Photos/video album of parish activities	.12**
Photos used to communicate welcome	.07*
Chat rooms available	03
Site makes use of Wikis	02
Site makes use of RSS feeds	.08**
Social network links	04
Parish newsletter posted	.02
Multilingual content	02

<sup>\*</sup>Significant at .05 level; \*\*Significant at .01 level.

One surprising finding, in light of recent emphasis on church accountability and transparency resulting from a series of high-profile parish embezzlements, is that parishioners in our survey assigned a negative value to the posting of parish financial information on the web site.

The pattern that emerges is that the parishioners in the survey most valued "inward-looking" content, such as items that provide information on parish activities or were related to parish community building. They placed less value on "external-looking" content, such as links to the Vatican or the availability of a newcomer's page.

### **CONCLUSIONS**

It is not an understatement to say that U.S. Catholic parishes are underachievers in terms of their web sites. Most use them as nothing more than glorified Sunday bulletins, conveying information purely in one direction. This study has shown that few parishes use their web sites to reach and engage parishioners. Features that some parishioners might value and take for granted from commercial enterprise web sites, such as the ability to register for events, submit forms online, communicate via e-mail links found on the web site, or even participate in online forums, are typically absent from parish web sites.

Not only do parish web sites fall short in their content, but so often their appearance leaves much to be desired. This is especially important in attracting new members, who are increasingly likely to view a parish's web site before deciding to visit it in person. If they are not impressed by the web site, the chance that they will give the parish a personal visit is

much reduced. This is particularly true for younger members. A parish has only one opportunity to make a first impression, and frequently that impression is through its web site.

The basic problem with parish web sites is really two-fold. The most obvious is financial. It can be costly to create and maintain an effective and attractive web site. Most parishes are strapped for cash and are unable to afford the services of a professional web developer. As a result, they typically rely on volunteers. While well-meaning, many of these volunteers have only a cursory understanding of web site development and limited time to devote to a project of this scope.

A related problem is that a volunteer webmaster may not have the time or resources to educate parishioners on the types of features that could be made available to them within the constraints of the church's budget. Until parishioners recognize the impact that a first-rate web site can have on enhancing their religious life, it is unlikely that it will become a high priority with the parish leadership. Unless parishioner expectations for technology in general and their parish web site in particular match that for commercial web sites that they regularly visit, parishes will continue to miss the opportunities that are available to them to enhance the spiritual and temporal lives of their members.

This research provides an important first step in helping guide future efforts of churches in designing the most effective web sites given a general lack of resources. Given the planned New Evangelization movement within the Catholic Church in particular, studies such as this may provide useful insights into the work needed to improve overall communication. Subsequent research might further examine how well a church web site communicates to its various constituencies, including members, prospective members, visitors, non-practicing members, and the general community.

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### **REFERENCES**

- Aladwani, A., & Palvia, P. (2002). Developing and validating an instrument for measuring user-perceived web quality. *Information & Management*. 39, 467–476.
- Barna Group. (2008). New research describes use of technology in churches. Retrieved from http://www.barna.org/barna-update/article/14-media/40-new-research-describes-use-of-technology-in-churches
- Cox, J., & Dale, B. (2002). Key quality factors in web site design and use: an examination." *International Journal of Quality & Reliability Management*, 19(7), 862–888.
- Campbell, H. (2005). Spiritualising the internet: Uncovering discourses and narratives of religious internet usage." *Heidelberg Journal of Religions on the Internet*, 1(1), 1–26.
- Dolan, T. (2007). E-curb appeal: People will visit your website before they visit your church; if they make it that far. Christianity Today, November 2007. Retrieved from http://www.christianitytoday.com/yc/2007/novdec/4. 30 html
- Goodmanson, D. (2009). Website wisdom: New research, cooperative reveal best practices for churches. Christianity Today, July 2009.

- Retrieved from http://www.christianitytoday.com/yc/manageresources/other/websitewisdom.html
- Ivory, M., & Hearst, M. (2002). Improving web site design. *IEEE Internet Computing*, March/April, 56–63.
- Ivory, M., & Megraw, R. (2005). Evolution of web site design patterns. Transactions on Information Systems, 23(4), 463–497.
- Kim, S., & Stoel, L. (2004). Dimensional hierarchy of retail website quality. Information & Management, 41, 619–633.
- Korgaonkar, P., O'Leary, B., & Silverblatt, R. (2009). Critical factors to successful website development: Opinions of website developers and designers. International Journal of E-Business Research, 5(4), 39–54.
- Lindner, E. W. (Ed.). (2011). Yearbook of American and Canadian churches 2011. New York: National Council of Churches USA.
- Loiocano, E., Watson, R., & Goodhue, D. (2007), WebQual: an instrument for consumer evaluation of web sites. *International Journal of Electronic Commerce*, 11(3), 51–87.
- Long, M., & Chiagouris, L. (2006). The role of credibility in shaping attitudes towards non-profit websites. *International Journal of Non-profit and Voluntary Sector Marketing*. 11(3), 239–249.
- Muylle, S., Moenaart, R., & Despontin, M. (2004). "he conceptualization and empirical validation of web site user satisfaction. *Information & Management*. 41, 543–560.
- National Council of Churches. (2011). 2011 yearbook of American & Canadian churches. Online at http://www.nccusa.org/news/110210yearbook2011. html
- Palmer, J. (2002). Web site usability, design and performance metrics. *Information Systems Research*, 13(2), 151–167.
- The Pew Forum on Religion and Public Life. (2011). U.S. Religious Landscape Survey. Retrieved from http://religions.pewforum.org/reports
- Thumma, S. (2011). Virtually religious: Technology and internet use in American congregations. Hartford, CT: Hartford Institute for Religion Research. Retrieved from http://www.hartfordinstitute.org/research/technology-Internet-use.html
- Wenham, K., Stephens, D., & Hardy, R. (2003). The marketing effectiveness of UK environmental charity websites compared to best practice. *International Journal of Non-profit and Voluntary Sector Marketing*, 8(3),213–223.
- Wyche, S., Hayes, G., Harvel, L, & Grinter, R. (2006, November). Technology in spiritual formation: an exploratory study of computer mediated religious communications. In *Proceedings of the 2006 20th Anniversary Conference* on Computer Supported Cooperative Work (pp. 199–208). Banf, Alberta, Canada.

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