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ONLINE ISLAMIC ORGANIZATIONS AND MEASURING WEB EFFECTIVENESS

by

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ONLINE ISLAMIC ORGANIZATIONS AND MEASURING WEB EFFECTIVENESS

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Experts estimate that websites maintained by various Islamic extremists have increased to hundreds in recent years. Innovative operational capabilities enabled by Internet technology certainly pose serious challenges to U.S. counter-terrorism efforts. However, greater attention must be given to Islamic organizations that wage information campaigns, perpetuating resentment and discredit against the United States and her allies. While these sites may not openly call for violence, the sharing of common causes and goals with extremist organizations is worrisome. The repudiation of Western systems and global Islamization under the Shariah systems is often a transparent theme. The purpose of this thesis is to evaluate the effectiveness of these websites at attracting and engaging audiences to promote their cause by applying a web performance methodology commonly accepted in the commercial industry.

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I.   INTRODUCTION

A.   BACKGROUND

1.   The Global War on Terrorism and Information Age Conflict

Al Qaeda and other terrorist organizations inspired by Islamic extremism undoubtedly constitute one of the most serious threats to the security of the United States today. The use of commercial aircraft as missiles against civilian targets on American soil was almost unimaginable prior to September 11, 2001. What distinguishes Al Qaeda even further from the anti-American terrorists of previous decades is its audacity and adeptness in waging an information campaign against the United States. The New York Times, for example, described Bin Laden as "…a master of manipulation and formidable propaganda foe, having spent years winning hearts and minds of much of the Muslim world" *(New York Times* 11 November 2001). Despite a severe blow to his operational capability from the U.S. retaliation, Bin Laden's years of propaganda have born fruit as an army of recruits inspired to carry Al Qaeda's legacy are cropping up around the world (Hegland 2004, p.1399). So far, the United States has not developed a sound strategy to counteract the adversary's relentless information campaign and the spread of its ideology.

This lack of progress is ironic given that "Information Warfare/Operations" and "knowledge dominance" emerged as the prevailing U.S. military theme over 10 years ago. Despite challenges in conceptualizing and operationalizing its strategy, the United States, nonetheless, has been at the forefront in preparing for information age conflict. The prospect of winning a bloodless war by targeting the adversary's knowledge and belief system with increasingly sophisticated information technology seems attainable given the extensive dependency on the web of information systems. With this in mind, the U.S. response, described by one author as "piecemeal, tactical, and reactive instead of strategic, comprehensive and anticipatory" is even more perplexing (Waller 2002, p. 2).

While new technology is an important aspect of the information age conflict, there is more to consider. As George J. Stein eloquently stated, "Cyberspace may be the new 'battlespace,' but the battle remains the battle for the mind. There must be no confusion of the battlespace with the battle" (Stein 1996, p. 176).   While the

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psychological component of conflict is not new, the spectrum of conflict has broadened, traversing societal, economic, and political systems in the coming age (Arquilla and Ronfeldt 1997, p.28). Therefore, preparing an "integrated battlefield" to shape the political context of the conflict at the strategic level (Stein, p. 177) arises as a critical task.

Douglas H. Dearth asserted that "war will be fought for the most intimate of human attributes: *identity*…conflict will be waged ever for the *minds of people*" (Dearth 2000, p. 11). The mounting threat of Islamic extremism is clearly a manifestation of his prophetic claim. Terrorism is fundamentally "a business of changing people's mind" (Tugwell 1992, p. 2). While the threat of kinetic power and physical destruction posed by terrorist groups should never be dismissed, a critical battle also takes place in the perceptual domain. Therefore, serious attention must be paid to how a global profusion of modern technology allows the adversary to reach the most lucrative target—the mind of the target population.

A troubling fact is that there is a clear indication that the enemy in the GWOT understands and capitalizes on the advantages of information technology, especially the Internet. In his 2002 article, John Stanton expressed his apprehension of terrorists and their exploitation of internet, stating:

> I believe that the continued deconstruction of 20th-century modes of thought and institutions, the evisceration of government's scope of power and legitimacy, the redefining of citizenship, and the empowerment relationship of the Internet make fertile ground for the terrorist opportunity. These factors will be adroitly exploited by intelligent and technologically savvy terrorists, who will be able to manipulate public perception by using the internet to bypass mainstream of information sources while leveraging that advantage to subtly coerce public and private sector institutions to carry and incorporate terrorist propaganda and action items. (Stanton 2002, p. 1018)

His beliefs were not farfetched after all. Websites associated with known Islamic terrorist organizations are mushrooming in cyberspace. The United States Institute of Peace (USIP) reported,

> In 1998, around half of the thirty organizations designated as "Foreign Terrorist Organizations" under the U.S. Antiterrorism and Effective Death Penalty Act of 1996 maintained websites in 1998; by 2000, virtually all

terrorist groups had established their presence on the Internet. Our scan of the internet in 2003–4 revealed hundreds of websites serving terrorists and their supporters. (Weimann 2004)

The threat is not confined to websites tied directly to known terrorist organizations. The real danger of today's terrorism is the radical ideology of global Islamism, rather than just Al Qaeda (Jenkins 2002, p. 24). Therefore, online Islamic organizations that promote and campaign for global Islamization also warrant greater attention. While these sites may not openly call for violence, the evidence of sharing common causes and goals with extremist organizations is worrisome. For instance, these websites often involve jihadistic messages, stress toppling democratic and free governments for Shariah systems of government, and offer disparaging statements against U.S. policies. Hyperlinks to known terrorist organizations such as Hamas are also a frequent feature on these websites. Since these websites cleverly operate under the guise of legitimate religious organizations or news agencies, with the associated authority and credibility, the basis for legal action is limited. A strategy of subtle and sophisticated propagation of jihadistic messages while discrediting U.S. policies may prove to be very effective in undermining public support for the U.S.-led GWOT, especially as the conflict drags on.

A key distinction of the characteristics of the information warfare age conflict is that the perceptual domain of the conflict is a crucial battlefield. While the psychological element has always been a part of warfare, modern information technology provides capabilities and tools that adversaries can leverage at an unprecedented level. The evidence is clear that the enemies in the GWOT are exploiting the internet, the essence of modern information and communication technology, to further their cause.

2.   American Society: Vulnerabilities in Information Age Conflict

The United States has been a superpower for decades, and since the collapse of the former Soviet Union, its military might has been unmatched. This power, however, is less relevant in a changing battlefield, especially as modern conflicts increasingly involve the perceptual domain. Arquilla and Rondfeldt's notion of "Netwar"—information aged modes of conflict and crime at societal levels, involving use of network forms of organization, doctrine, and communication—reiterates the implication of the global

diffusion of information technology in shaping the information environment. Diffusion and easy access to technology mean that nearly all adversaries can obtain a capability to influence societal perception.

There are two notable conditions that exacerbate the U.S. vulnerabilities in this new mode of conflict. First, the United States is a democratic society. The constitutionally guaranteed freedom of speech inadvertently provides an adversary a shield to propagate information. While the best defense against such exploitation is the complete control of information, as is the case for authoritarian regimes, this is not an option in a democratic society.

Second, the increasing dependency on the Internet as an important source of information represents a greater target opportunity for adversary. In the United States, more than 70 percent of Americans who use the Internet consider online technology to be their most important source of information, ranking the Internet higher as an information source than all other media including television and newspapers (University of California Los Angeles, 2003). Anyone with internet access is a potential recipient of adversaries' propagandistic messages that can be freely disseminated without editors in news rooms. The impact of public opinion on policy making in the United States can further exasperate the situations to the adversary's advantage as seen in Vietnam and Somalia.

These conditions reiterate the immense challenges to the United States in the GWOT. The global diffusion of information technology also presents the United States with an opportunity to conduct its own influence campaign in cyberspace.

B.   SCOPE

There is clear evidence that many terrorist-affiliated or pro-Jihad religious organizations are taking full advantage of the internet and web based communications. The U.S. reliance on advanced information technology, as well as its social and political dynamics, makes the country vulnerable to web based influence by these organizations. The purpose of this thesis is to evaluate the effectiveness of jihad-motivated websites and the implications for the U.S.-led GWOT. This thesis utilizes commercial marketing

principles and performance measurement methodologies as a guideline in developing a model framework— termed Attract, Inform, and Community—that is applicable to the situation under study.

C.   ORGANIZATION OF STUDY

This thesis is organized into five chapters. Chapter I, the introduction, has outlined background, purpose, scope and organization of the study. Chapter II discusses the identity and general characteristics of pro-jihadistic websites. Chapter III examines the marketing perspective on measures of effectiveness of web based communications. Chapter IV provides evaluation metrics of selected subject websites. Chapter V analyzes the findings of the study, identifies the implications to the GWOT, and offers recommendations for future research.

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II. OVERVIEW OF ISLAMIC WEBSITES

A. INTRODUCTION

1. Growing Cyber -Presence

Terrorists' use of information technology and their presence in cyberspace has been documented in a series of reports as increasing attention is given to this potentially troubling occurrence (Stanton 2002, Spencer 2003, Thomas 2003, and Weimann 2004). According to the USIP, hundreds of websites serving terrorists and their supporters have been identified (Weimann 2004). This estimate, however, is probably just the 'tip of the iceberg' given the uncontrolled and broad nature of the Internet. While previous studies have focused on websites with alleged ties to known terrorist organizations, this thesis extends the investigation to various Islamic organizations which perpetuate discredit and antagonism against the United States, her allies, and her interests. In most cases, these organizations cautiously refrain from openly supporting violence, but they actively promote Muslim solidarity and global Islamization by propagating indiscriminate criticisms and thereby creating distrust and hatred against the U.S. government and Western civilization. This chapter discusses the general characteristics of the organizations and website whose prime purpose is to spread radical Islamism.

2. Blurred Division

This thesis does not label all Islamic organizations as terrorist organizations. However, organizations that campaign for the replacement of Western democratic governments with Shariah certainly are a valid concern to the West and moderate regimes, especially in the U.S. led Global War on Terrorism. At first, it is difficult to discern the organizations making common cause with terrorist groups from lawful organizations. However, post-9/11 investigations revealed numerous Islamic charities linked to terror organizations. Although most of the financial support took place in the absence of donors' knowledge of terror activities, such a revelation certainly raises the question of how extensive the influence of radical Islam is in the United States.

B.   WHO'S ONLINE?

1.   Website Selection

Extensive lists of terrorist-affiliated or terrorist-supportive organizations were provided in past studies (Weimann 2003 and SAIC 2004). A link to sites that share similar political and ideological affiliation was a common feature of these websites, thus providing additional websites suitable for this study. However, a large number of the websites collected from such lists were excluded from this study because they were purely commercial or social despite being listed as Islamic militant organizations. Equally large was the number of inactive websites.

The reason for the discontinuation of any particular website was difficult to ascertain. Lack of funding and a low return value on investment, as perceived by the sponsoring organizations, may account for the disappearance of some websites, while a forced shut down, as was the case for the "Alneda" website, was also certainly possible. "Alneda" was believed to be the official website of the Al Qaeda organization, until Jon David Messner, a U.S hacker, hijacked the site. Prompted by the increased awareness of the terror group's internet use, private groups have launched retaliation by actively tracking and shutting down terror-related websites. For instance, "Internet Haganah", was created to monitor and shut down websites related to Islamic terrorist organizations and claims to have shut down 65 websites in the U.S. and overseas (*Chicago Tribune* 5 January 2003).

For the purpose of the thesis, a sample pool of websites was kept at a manageable size of 28 websites. They were selected based on the relevancy and the adequacy of web contents. The discussion of Islamic websites in this chapter draws from the findings of previous studies and direct observation of the selected websites.

2.   Website Characterization

From a grisly video of a hostage execution to a Friday sermon of a Wahhabi cleric, the message of radical Islam is presented in various forms. Given the large volume of Islamic websites and the variety of their content, it is useful to characterize the subject websites into three groups based on content, rhetoric, emphasis, presentation, and affiliation with known terrorist organizations. These groups are: Known terrorists and extremist organizations, Pro-jihad organizations, and Islamic news agencies.   This

breakdown avoids generalizing all Islamic websites as terrorist-associated. Furthermore, the last two categories—Pro-jihad organizations and Islamic news agencies—reveal a robust and sophisticated information campaign that can potentially undermine the U.S. public's resolve and support for the GWOT. These two areas have been previously neglected in favor of terrorists' Internet-related operational capabilities such as command and control and target data mining.

a. Known Terrorists and Extremist Organizations

This category includes websites of the organizations designated as "Foreign Terrorist Organizations" by the U.S Department of State or websites that exhibit open support and affiliation with such organizations. In a 2002 study, Weimann reported that standard search engines such as Google and Yahoo yielded 47 terrorist sites world wide. In a 2004 report, his estimation increased to hundreds. The precise tracking of a terrorist website is an extraordinary effort as many websites quickly emerge, disappear, and reappear in different locations. The study indicated a subtle shift in tactics by extremists due to increased scrutiny, publicity, and law enforcement investigations (SAIC, p. 11). For instance, as some English language sites are closed, others appear in another language to take their place. This is responsible for an exclusion of a large number of terrorist and extremist organizations websites from the thesis as they are only maintained in Arabic. Arabic-only websites are common for pro-Palestinian terror organizations, such as Al Aqsa Martyrs Brigade and Palestinian Islamic Jihad. Hamas and Hizbollah also continue to maintain several websites in multiple languages.

b. Pro-Jihad Sites

This category constitutes the bulk of the websites examined in this thesis. These websites are maintained by various Islamic religious, academic, and political organizations or individuals who are often based in the United States or western countries such as the United Kingdom, Australia, or Germany. Many of these websites are in English only and probably target the Muslim and Western populations where the organizations are based. The dominating theme is a social and political struggle against the western cultures in which they live in a spirit of Jihad and Islamization. The focus and contents of these websites often differ from traditional Islamic terror organizations such as Hamas and Hizbollah which typically have a limited political objective: to

remove Israel and reclaim Palestinian sovereignty in the region. Their websites are chiefly focused on localized resistance against the Israeli occupation force. A theme of Israeli persecution is echoed via the pictures of Palestinian victims and suicide bombers who are typically glorified as martyrs. The sites also update the "number of operations conducted," a euphemism for suicide missions.

Jihadist websites, however, call to all Muslims around the globe by preaching the solidarity of Muslim brotherhood and the establishment of Shariah as a religious duty against non-Muslims (Anti-Defamation League 2002, p.3). Because of global accessibility and ability to disseminate their messages, the internet is an important tool to incite and mobilize their supporters. This movement poses a potentially greater concern because of a transnational and transregional character, rather than being located in a single geographical area.

A multitude of pro-jihad websites manifest themselves in various styles. For instance, "The Center for Islamic Studies and Research" is a fake organization and is considered to serve as the Al Qaeda's official media organ. The use of cover names or slogans to bring forth an impression of religious or academic organizations is also common on Jihadist websites. "Understanding the Islam of Mohammads and resisting the Islam of Satan" and "Site dedicated to the blessed global Islamic awakening" are just a few examples of slogans found on Jihadist websites. A direct provocation of violence or graphic images are less visible, but inflammatory anti-U.S. and anti-Israeli messages are carefully intermingled in religious edicts, Quranic verses, or sermons, and sometimes in a press release format, hence providing religious authority and organizational credibility in the fight against the infidel. Several jihadistic websites post a reproduction of terrorist's communiqués such as the fatwah issued by Al Qaeda. They commonly provide links to the websites of terrorist organizations, thereby increasing public access to these sites.

Jihadist messages are often condoned and even endorsed by well-established Islamic organizations in the United States (U.S. Congress, Senate 2003). Some well-known organizations, such as Council on American Islamic Relations (CAIR) and American Muslim Council (AMC) continue to be controversial because of their

reluctance to make a public condemnation of terror organizations and lukewarm support for the U.S. counter-terrorism effort. The ambivalence of their stance was especially questionable when the AMC's website advised American Muslims not to cooperate with the FBI and law enforcement shortly after the 9/11 attack (Gaffney Jr. 2002). These organizations maintain websites which appear professional and well-produced, probably because of their prominence and strong financial support. Already familiar with U.S. culture and politics, these organizations certainly take advantage of the Web to further pursue their political activism and spread Muslim influence in the mainstream of the United States.

Several radical websites have adopted survival techniques to evade increased scrutiny and law enforcement investigation. The persistent reappearance of "Alneda" is a good example of survivability by embedding radical websites within another website without the site owner's knowledge (Thomas 2003, p115). There also seems to be an increased use of public forum news groups and chat rooms as message boards for militant groups (SAIC, p. 11). The utilization of online forums for planning coordination is well illustrated by the denial of service attack conducted against the Internet Haganah (The New Atlantis 2004). The site was temporarily shut down in 2003 by the denial of service attack launched by supporters of Al Qaeda affiliated forums. The attack was retaliation against the Internet Haganah's effort that caused eight radical websites to lose their third party DNS service (WorldNetDaily 2003). In short, there is mounting evidence that pro-Jihadist websites share common causes with terrorist organizations and indirectly support them.

c.   *Islamic News Agencies*

A growing trend among Islamic websites is the emergence of Islamic news agency sites. Probably inspired by the success of Al-Jazeera in the satellite broadcasting arena, news agency websites with no apparent affiliation with any known broadcasting organization take advantage of the cynicism and perceived bias of western news reporting to appeal to its viewers. Similar to the pro-jihad websites described earlier, these mostly English websites suggest that they aim to appeal to Western audiences or Muslims in western countries. These news agency websites often lure visitors by conveying themselves with such headlines as "the first Arabic on-line news

agency", "clear view on the US war on Terrorism", and "the news that CNN will never report". News articles and editorials are frequently provided by anonymous sources and are carefully combined with reproductions of news articles from well known media sources to be perceived as a trustworthy and legitimate information channel. However, objectivity is rarely seen, as the websites are primarily a repository of lopsided and skewed reports. Like the pro-Jihadist websites, sympathy and a shared common cause with terror organizations are subtly conveyed on the news agency websites.

C.   WHY ONLINE?

The Internet provides terrorist organizations with innovative capabilities and opportunities that can compensate for a lack of combat power and other resources. The use of the Internet for planning, coordination, logistics, and execution of terrorist attacks has been widely reported, especially since the 9/11 attack. Additionally, the global diffusion, flexibility and anonymity of the web makes it especially suited for information activities such as publicity and perception management. Although such activities are dedicated to spreading the ideology of global Islamization and are less directly involved in supporting actual terror attacks, they can have broader and gradual implications by garnering sympathy and tolerance toward radical actions by extremists. This section delineates the operational capabilities and information activities afforded by the Internet.

1.   Opportunities and Capabilities

a.   Command, Control, and Communications

Al Qaeda's reliance on the internet in planning and coordinating the 9/11 attacks is a well known fact. An email account or a chat room log-ins are easily obtainable and can be accessed from public locations where the connection to terrorists is not traceable. Digital steganography also provides a means of secure communication by concealing messages. Such capabilities allow operations to be coordinated from around the globe.

b.   Targeting Information

A wealth of data on potential targets can be obtained from the Internet, including detailed information on U.S. infrastructure and commercial satellite photography. Terrorists have proven their proficiency at data mining on the internet. For instance, a seizure of Al Qaeda computers revealed chilling details on Al Qaeda's

knowledge of sensitive information gathered on the internet, such as engineering and architectures of critical structures (Weinnan, 26 April 2004). U.S investigators also found evidence that Al Qaeda's desire to gain control of the computers that manages U.S. infrastructure such as water, electrical, transportation and communication systems (Anti-Defamation League 2003).

c.   *Funding*

The Internet serves as an ideal tool for global fund-raising. While organizations like Hizb-ut-Tahrir and Chechen rebels openly solicit funds by publicizing bank account numbers on their websites (Thomas 118), others including Al Qaeda, built their global network to raise operating funds by using charities and nongovernmental organizations as fronts (Weimann 2004). In fact, the dependency on the general public fund has become more significant as state-sponsored terrorism has declined in recent years (Tibbitts, p. 20). Numerous private and charity organizations, including "Benevolence International Foundation" and "Global Relief Foundation" discontinued online operations since their connection to and support for terrorist organizations was exposed by the post 9/11 investigation (Tibbitts, p. 21). The unregulated electronic financial environment is also a concern for terrorist manipulation for fund transfers and money laundering (Tibbitts, p. 21).

d.   *Recruitment*

The Internet allows terrorist organizations to solicit and directly mobilize online audiences to participate in their actions. A rich media presentation is an added advantage to attract young and susceptible minds. A report published by SITE institute in 2003 also reveals Al Qaeda's use of chat rooms to provide instruction to willing recruits on how to join the insurgency against the U.S force in Iraq (Lathem 15 September 2003). In addition, Imam Samudra—captured for his role in the Bali attack in 2002—admitted he was inspired by the Internet to wage Jihad.

2.   Ideological Information Activities

In many instances, funding and recruiting are closely tied to the information activities because they are essentially a direct result of good publicity. Three types of information activities are highlighted.

a. *Publicity and Perception Management*

With direct control of the online messages they create and disseminate, terrorists have an unprecedented opportunity to publicize their cause. Terrorists do not want to be seen as criminals (Tibbitts, p. 33) in order to elicit sympathy and support (Weimann 2004). To this end, their violent activities are often overshadowed by the injustices and oppression they claim to endure, thereby justifying the legitimacy of their agenda and actions. Numerous reports confirm the mastery of terrorist and Islamic organizations in exploiting the Internet to affect public opinion. For instance, when Al Qaeda's strategy of all out war against the West was faced with opposition even from radical Muslim circles, the organization fiercely defended its position in a series of statements posted on its "Alneda" website (Eedle 2002). Another example of Al Qaeda's use of the Internet for perception management was when Saudi cleric Sheik Salman al-Oadah published "How we can co-exist"—a response to an open letter from 60 U.S. intellectuals supporting "war on terrorism"—signed by 150 Saudi academics and professionals. Al Qaeda again posted a furious commentary on its "Alneda" website, "attacking 'How we can co-exist' almost line by line" (Eedle 2002). Shortly after the Al Qaeda rebuttal, 80 percent of those who signed "How we can co-exist" withdrew their support (Eedle 2002). This illustrates the importance of the web to Al Qaeda as an effective tool to enrage people and to neutralize moderate opinion.

b. *Propaganda and Disinformation*

Disinformation and propaganda are typical messages that appear on the Islamic organizations websites. The polarization of religious and cultural differences is a favorite strategy. The so-called inferiority of Western democracy compared to the Shariah system and the West's alleged efforts to Christianize the Muslim world are just a few examples of this propaganda. However, since it is difficult to verify facts online, rumors and false reports are often regarded as true. The websites frequently make references to a religious leader or the Quran to instill authority and credibility. Websites portrayed as belonging to an information agency exploits the credibility associated with traditional news media while ignoring the ethics of news reporting.

c. *Spreading Fear*

Since the 9/11 attack, several websites posted threats of an impending large attack on U.S. soil (Carmon 2003 and Weimann 2004) With the help of additional media coverage, this tactic can be effective to instill fear and insecurity in the mind of the general public. The key objective of terrorists is to create fear in order to coerce changes favorable to terrorists. As Garner asserts, "the success of this strategy is dependent on the degree to which the fear of attack can be magnified out of all proportion to the actual danger" (Garner 2002).   Therefore, the Internet can be an extremely useful psychological warfare weapon for terrorist groups to exaggerate their capability and to amplify a threat.

D.   ENGAGING AUDIENCES

Although the conversion of audiences to their side may be the greatest success of Islamic websites, a chief benefit is to convince the "fence-sitters", those who have not formed an opinion or who have mixed feelings about issues important to these organizations (Tibbetts, p.36). Their ability to reach a variety of audiences with different messages is made possible with web technology. For example, current versions of web browsers, including Netscape and Internet Explore, support JavaScript functions allowing internet servers to know which language is set as the default for a particular client's computer. A further capability to build a personal profile allows organizations to target users with sympathy toward a cause, to solicit donations or to control information in a manner most receptive for each audience. For example, factual information rather than graphic imagery is more effective to persuade educated western audiences while enraging anger via graphic imagery works well in recruiting suicide bombers (p. 36). There is no confirming evidence that Islamic extremists have acquired such sophisticated use of the Internet technology.   However, their awareness of diverse audiences, especially international bystanders and western audiences can be inferred from multi-language versions of their websites.

E.   CONCLUSIONS

This chapter introduced Islamic websites of various characteristics, encompassing known terrorists, pro-jihad and emerging news agency websites. Despite the varying degrees of rhetorical violence, an anti American theme unequivocally resounds in almost all of these sites. It is also clear that the web provides indispensable tools for these

organizations and they will likely take advantage of this continuously evolving technology. The key opportunities and capabilities afforded by the internet technology were also discussed in this chapter.

III. WEB PERFORMANCE

A. INTRODUCTION

The strategic importance of a robust web presence is broadly accepted and much effort has been invested in integrating web technology into the overarching strategy of prominent commercial organizations. This trend will likely continue in the near future as the WWW is expected to increase by a factor of 20, growing to 200 million sites by 2005 (Palmer 2002, p. 151). The importance of the WWW in business success and its strategic value have not gone unnoticed by non-commercial organizations, as they have followed suit and have launched operations online. The growth of various public sector, nonprofit, and activist groups' websites in recent years is especially noteworthy. In addition, there are numerous websites dedicated to supporting and promoting the online presence and operations of non-commercial organizations. This chapter discusses the strategic importance of organizations' websites and their perspective on measuring website effectiveness which remains a universal challenge (Ranchhod *et al* 2001, p. 61).

B. COMMERCIAL ORGANIZATION

1. Need for Measure

Whether marketing via Internet or traditional mass media, marketers and advertisers are intrinsically sensitive to customer response to their advertising/marketing activities. As corporations increase e-commerce related investment, determining the return-on-investment has become the number one priority. A good performance measure helps organizations to identify areas of weakness and ways to improve. There is, however, a lack of standardized methods to measure web site performance, and this hampers organizations' ability to conduct self-evaluations (Kim *et al* 2003, p. 4).

2. Taxonomy of Web Site Effectiveness

Inconsistent interpretations of "website effectiveness" by market researchers and scholars may exasperate efforts to create a standardized and meaningful measure of web effectiveness. Of the numerous perceptions of website effectiveness, the taxonomy proposed by Roberts is the most useful and systematic approach available. It employs a multi-dimensional characteristic of web effectiveness and complexity by identifying three different areas which constitute the web effectiveness: usability, traffic and audience

measurement, and site performance (Roberts 2003, p. 299). Usability assesses user experience and the perceived value of the site. Web traffic data—such as the number of visits, files requested, and the duration of the visit—may allow marketers to gauge a web sites success in terms of audience exposure. Site performance is operational data such as down time and number of broken links, necessary for technicians to keep websites at an acceptable operational status.

A common problem of website effectiveness in the marketing sector is a skewed focus on traffic and audience measurement. As Fattah points out, various web metrics have been regarded as an important—if not the only—"indicator of a website's relative health, growth and placement potential" (Fattah 2000, p. 1). The list of traffic data that can be collected by sophisticated software is large, and yet a reliance on traffic data alone generates an incomplete and misleading picture of overall site effectiveness. From a marketer's perspective, web traffic data, such as time spent on a given site or click-through rate, do not provide useful information such as "the user's lifestyle or their psychographics" (p. 1). Inaccurate data can often result from automated programs. Log-file data, for instance, can be inflated by "spiders" or "bots," automated programs that access Web pages for various reasons. Conversely, the data can be deflated when pages are "cached," or stored and accessed from another website (Silber 2002, p.162).

The problem is not confined to the inaccuracy of the measure itself. A greater flaw is the underlying tendency of marketers to utilize the traditional measures of effectiveness of marketing communications (Stewart and Pavlou 2003 p. 381) without taking into account the unique attributes of the Internet. The use of traditional measures of effectiveness is not an entirely illogical approach since the studies on consumer response suggest that consumers do not respond remarkably differently to the Internet, at least by traditional metrics. For instance, web banner advertisement was related to a significant increase in brand and ad awareness. Furthermore, web page complexity and web experience have a positive effect on attitude toward the brand and purchase intention (p. 381). Despite the similarities, such metrics must be used with caution because "they may not have the same implications within the interactive context of the Internet as they have within the more static paradigm that has guided the measurement of the effects and effectiveness of traditional media" (p. 379).

3. Multi-Dimensional Qualitative Approach

a. *Customer Centered Measure*

The merit of Robert's taxonomy of website effectiveness is recognized for its systematic definition and how it addresses the multi-faceted issues associated with website effectiveness. However, it does not provide a practical measuring methodology for an existing website since the author's primary focus was the designing phase of the online marketing. Recognizing the shortcomings of the common industry practice of web evaluation which only focuses on the web traffic component of Robert's website effectiveness, marketing and communications researchers have proposed several theoretical frameworks and models that can provide more understandable and pragmatic measures for the organizations (Simeon 2001, Palmer 2002, Agarwal and Venkatesh 2002 and Kim *et al* 2003). While the traditional metrics can still be useful indicators of a websites' general performance, the ability to derive a meaningful interpretation of such technical data in the context of overall objectives of the web must be stressed.

Of the three key areas of web site effectiveness, the greatest emphasis is now attached to the usability of the website in the discipline of online business (Agarwal and Venkatesh 2002 and Palmer 2002). Usability centers on a customer's online experience and satisfaction. Since the website is the primary user interface within organizations, the adage "the first impression is a lasting impression" applies equally well to online business. Subsequently, the repercussions of poor usability designs are severe. One study shows that fifty percent of users will leave if they cannot find information they want and forty percent will not return if they perceive their experience as negative (Kim *et al*, p. 18).

Customer-centered usability demonstrates the profound impact of the Internet on the information structure between suppliers and receivers of information (Molenaar 2002, p. 55). In contrast to traditional media, such as newspaper and television, information suppliers no longer determine what, how much, when, and in what manner to distribute information. Instead, the Internet empowers users to initiate information collection and process it at their convenience. Of even greater significance is the relationship created between the user and the information provider or seller in two-way communications via the Internet. The emergence of Customer Relationship

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Management (CRM) as today's leading business strategy clearly exemplifies the customer-centered business environment. In a customer-centered online business environment, the promotion of a product or service alone is not the most critical function. The online experience must offer a value that is not provided by the physical market to customers. Highly customized shopping experiences and personalized selection are essential to deliver compelling incentives to customers. As pointed out by Stewart and Pavlou, the mere substitution—replacement of products or services without adding any value for which customers were willing to pay—is attributable to the failure of many dot.com businesses (Stewart and Pavlou, p. 378).

b. *Heuristics*

A multitude of literature has been published to provide a helpful usability measure, ranging from a simple checklist to a more complicated process of psychometrics (Agarwal and Venkatesh 2002, Kent 2003, Kim *et al* 2003, and Palmer 2003). Nielson proposed eight distinct approaches for evaluating usability: heuristic evaluation, guideline reviews, pluralistic walkthroughs, consistency inspections, standards inspections, cognitive walkthroughs, formal usability inspections, and feature inspections (Agarwal and Venkatesh 2002, p. 170). However, the heuristic evaluation appears to be favored by a majority of authors of the literature reviewed.

Heuristic evaluations are assessments conducted by a small group of evaluators against a pre-established set of guidelines or "heuristics" (p. 170). Heuristic evaluation is typically performed in three phases. The first is to establish a basis for evaluation. The basis or guideline is referred in various terms, such as criteria, evaluation category, and key factor. Each evaluation category may be further segmented to subcategories. This is to ensure various dimensions of the major category are well represented. The second is to establish the relative importance by using weights and ratings. The evaluator, or web user, provides the relative importance (or weights) of the different categories. The last phase is for users to rate various websites in terms of their quality on the particular attribute. What distinguishes this analytic measure is that it assesses the strategic potential of a website rather than after-the-fact orientation, which is the case for web traffic data.

In spite of the popularity of the heuristic method there are considerations and limitations associated with it, and it should not be viewed as a flawless stand-alone measure. For example, organizational characteristics and instrumental goals affect the perceived importance of the evaluator. This bias was confirmed in a study that evaluated 21 websites across four different industry sectors: airline, bookstore, auto manufacturer, and car rental (Kim *et al*, p. 25). The relative importance of particular attributes weighted by the user varied from industry to industry. The findings also determined that rating relative importance is a useful gauge for organizations to orient its website functionality to user expectation. In addition to organizational characteristics, the predisposition of the evaluator affects personal interpretation or interaction with the test subject, making strict objectivity difficult to achieve (Agarwal and Venkatesh, p. 170). Therefore, the integration of multi-faceted evaluation techniques is recommended to achieve increased reliability and validity. A plethora of usability evaluation criteria proposed echoes a lack of consensus among the researchers as summarized in Table 1.

Table I Criteria for Web site evaluation

Reference	Criteria
Everhart (1996)	Currency, content/information, authority, navigation, experience, multimedia, treatment, access, miscellaneous
Sullivan (1996)	Clarity of communication, accessibility, navigation, design and maintenance, visual presentation
Surveysite (1996)	Content, graphics, visual attractiveness, uniqueness, effective selling message, links, chat rooms, registration forms, search engine, audio
Kubly (1997)	Accuracy, authority, objectivity, currency, coverage
Murray and Rizzolo (1997)	Authority, currency/updatedness and stability, accuracy and comparability, workability, purpose, nature of user
Reinken Information Solutions (1997)	Superstructure, graphics, use of color, content, readability, page layout, hyperlinks, promotion
Smith (1997)	Scope, content, graphic and multimedia design, purpose, reviews, workability, cost
Wilkinson et al. (1997)	Site access and usability, resource identification and documentation, author identification, authority of author, information structure and design, relevance and scope of content, accuracy and balance of content, navigation, quality of the links, aesthetic and affective aspects
Yahooligans (n.d.)	Accessibility, accuracy, appropriate, appealing
Alexander and Tate (1999)	Authority, accuracy, objectivity, currency, coverage
Alper (1999)	Ease of use, information content, entertainment value, interactivity
Gehrke and Turban (1999)	Page loading, business content, navigation efficiency, security, marketing/customer focus
Mclachlan (1999)	Speed, first impression, ease of site navigation, use of graphics/sounds/videos, content/information, currency, availability of further information
Tillman (1999)	Criteria for inclusion of information, authority of author or creator, comparability with related sources, stability of information, appropriateness of format, software/hardware/multimedia requirement
Byrne (2000)	Publisher/author, structure/navigation, content, links, integrity/access
Grassian (2000)	Content and evaluation, source and date, structure, other
Hagerty Library (2000)	Authority, accuracy, objectivity, currency, coverage/intended audience
Hong and Jeong (2000)	Design, business function, reliability, interface, technology, community, contents
Kim and Kang (2000)	Corporation information, product/service information, information update, information reliability, quality of system, performance of system, design, navigation, mutual relation, amusement
Prorak (2001)	Authority, purpose, audience, content, accuracy/objectivity, currency, summary
Sinha et al. (2001)	Content, structure and navigation, visual design, functionality, interactivity, overall experience
Waller (2001)	Impression on first entry; the homepage is exciting, interesting, attention-grabbing; the homepage contains the key facts; shopping experience; back office support; links are clear and meaningful; the whole site has a structure; all the pages obey the same rules; long Web pages have their own structure; all Web pages have a reference; useful external links are provided; the Web site achieves its purpose; browser compatibility and accessibility

Table 1.   Criteria for Web site evaluation (Source: Kim *et al*, 2003)

c.   *AIPD Model*

Simeon's AIPD model (Simeon 2001) is derived from four distinct capabilities that websites must utilize in order to be effective and successful: Attract, Inform, Position, and Deliver. The first capability means that the primary objective of a website must be to attract a variety of visitors once it establishes its presence online. Some of the most popular techniques include registering with search engines and developing advertising campaigns.

The "inform" capability means that websites must present information about products, services, people, events or ideas. The importance of this function is underscored by the study that identified the number one reason people turn to the Internet is to seek information. The "position" capability is characterized by a differentiation in service provided which helps to create an organization's image or market position. The

"Delivery" capability pertains to the technical infrastructure for the presentation and delivery of information and service.

Simeon's evaluation is also a heuristic procedure in which the key components of four activities are determined and measured. This AIPD model depicts a systematic classification of interrelated capabilities rather than a combination of random fragments as seen in previously discussed studies. The model is inclusive enough to minimize the risk of overlooking any significant criteria and adjustable enough to fit websites of diverse purposes.

C. PUBLIC AND NONPROFIT ORGANIZATIONS

Often operating on a limited budget compared to commercial entities, public and nonprofit organizations are looking to the WWW for an effective and economical channel to promote their cause. Nonprofit and public organizations are about more than "revenue" or "sales". Unlike commercial companies, nonprofit and public organizations face a unique and significant challenge of inspiring viewers to join or support their cause often without any tangible and immediate return.

1. Nonprofits

The WWW has been an ignored resource for organizations outside of the commercial arena, but this may no longer be the case. The potential benefit of the Web as a prime instrument to engage and mobilize a population for various social and political causes is gaining wide acceptance by nonprofit organizations. There is an increasing effort to alert and to share information among nonprofit or voluntary organizations in order to support and to capitalize on web technology. For instance, online sources devoted to assisting nonprofit organizations' (NPOs) with the creation of effective websites are easily found. An even more noteworthy point is the increasing effort to understand effective web use via systematic analysis and assessment of their performance. This is not too different from the performance improvement process commonly practiced in the business industry today. The findings and recommendation from such studies parallel that of studies conducted on commercial organizations. For example, content, online community, easy navigation, and customer retention are equally important for the NPOs online. Personalization is especially critical to charities, which depend on donor loyalty and continued support (Wenham *et al* 2003, p. 216). The study

by Wenham, however, revealed that NPO websites are generally more organization-oriented than customer-oriented, and generally lack customization features.

Despite the apparent similarities, there is also an interesting contrast in web use between profit and nonprofit organizations. Both desire to attract audiences and create a positive perception of the organizations. For a commercial organization, image branding is an intermediary required before the user makes an ultimate decision to acquire one product over a competitor's. The nonprofit organizations' goal is to inspire viewers to join their cause, often without any tangible return. This is a unique and significant challenge for nonprofits as it is difficult to persuade people to exchange something they value, such as money or time, for something beneficial to others but more difficult to quantify or to portray (Wenham *et al*, p. 215).

NPOs are generally in the business of sharing and spreading ideas, and changing attitudes, whether about health, education, or the environment, etc. In short, the purpose of NPOs rests in processing information and ideas (p. 216). This reinforces the proposition that the web is the most powerful instrument available to the NPOs since the real power of the internet is the freedom to gather, process, and disseminate information. However, it is necessary for NPOs to depart from organization-oriented utilization of the web by delivering individualized gratification to its visitors in order to maximize its potential. (p. 221).

2. Public Sectors

Government and public sectors are not excluded from the opportunities of the WWW. Democracy is characterized by the active participation of its citizens in making a decision that may influence public life. Therefore, a good practice of eGovernment will be the "combination of electronic information-based services for citizens with the reinforcement of participatory elements" (Bertelsmann Foundation 2001). Lee investigated a web site development strategy model exclusively for public institutions (Lee 2003). His exploratory model augmented Simean's AIPD model with a different set of perspectives. Lee theorized less relevancy of positioning in the AIPD model, attributing to a lack of market competition quality among the pubic websites. Instead, a sense of community—enabling members to interact and provide services based on the differentiation strategies on a web site—will be a more significant factor, thereby

revising Simeon's AIPD model to AICD: Attract, Inform, Community and Delivery. This view has further bearing in the context of eDemocracy in that a sense of community is an antecedent that cultivates enriching and mature participations from citizens of its society.

D.   APPLICATION: AIC MATRIX

Islamic organizations' websites subject to investigation for this thesis share similarities with emerging online activists, i.e. marketing their idea to create a virtual community with the same vision such as "to diminish US and Israel influence on Islamic nations and to establish government of Islamic law".   The web's utility for such overarching objectives is its ability to attract likeminded people by publicizing their messages and offer activities they can participate in.   In this regard, Lee's AICD is a suitable measure for an inspection.

However, a modification is necessary since the indicators or the components of the AICD activities are divided into two categories using Shneiderman's Objects Actions Interface (OAI) Model, which underscores website characteristics in terms of traditional communication sense and intrinsic web technology.   A website is a unique communication medium that integrates traditional and innovative methods to engage a message recipient.   An effective website maximizes web potential by employing both with a balance.   The OAI model follows a hierarchical decomposition of objects and actions in the task and interface domains, hence providing a helpful guide to web site designers in decomposing a complex information problem and fashioning a comprehensible and effective web site (Shneiderman 1998, p. 61).   While the meticulous process of decomposing and aggregating atomic objects—basic element of information transparent user, such as color swatch, icon, and logo, etc.—is beyond the scope of this paper, this concept provides two angles of approach for web evaluation.   First is the presence and the quality of information content (hereafter labeled as "content").   The second is the "structure" which corresponds to the facilitation of action via a systematic structure and innate internet technical capabilities, such as fast loading.   Since the "structure" is very compatible to "delivery" in the AIPD model, it is eliminated in the AIC matrix.   The components of the matrix are identified as shown in Table 2.   Some

attributes are not mutually exclusive. For instance, prioritizing content and the clear appearance are important for aesthetic appeal to attract visitors as well as increase information seeking ability.

	Content	Structure
Attract	**attractive features** - clear & consistent color and icon - logo - meaningful pg title, - last update - prioritized content layout (size, color, animation) & grouping - promote coming event	- search engine registration - quick loading of homepage - balanced use of video/audio clip - no file/downloading error - visible & structured content table

Inform	**Credibility:**
	
	Organization Information
	
	- background(bios)
	- mission
	- projects
	- FAQ
	- easy to find contact information
	
	Reliability :
	
	- source of documents
	- document creation date
	- author information
	- contact regarding document
	- timely information
	
	Relevancy :
	
	- timely information
	- real world events
	  (political election,
	  holiday, etc.)
		Easy navigation :
		
		External Links
		
		- various external links
		- context of link (id/title, content breadth
		- notify when link to offsite
		
		Internal navigation
		
		- icon to return to main page
		- label of current position
		- visible navigation button
		- no back trapping
		- search(archives)
		- system status feedback (file size, wait time, etc.)
		- downloadable media/audio
		- preview of long download
		- downloadable text
		- downloadable in multi format
		- printer ready
		- email document
		- link to related articles

Community	- eMagazine/newsletter - donate online - action link (vote registration, email official, etc.)	**Dialogical Loop** - encourage feedback - bookmark/favorite - email to a friend - forum/message board - seed conversation topics - secure transaction - members only - multi language - recognize return visitor - email alert

Table 2.   AIC matrix

While there is a lack of consensus on evaluation methodology, researchers unequivocally caution against the delusion of a perfect stand-alone method. Web sites vary greatly in audience, objectives, and purpose, and therefore there is no single standard to capture all of the embodiments of a good website.

E.   CONCLUSIONS

This chapter reviewed diverse perspectives and principles of measuring website effectiveness in commercial industry. A growing trend is to shift away from the over reliance on metric centric measures. The use of websites by nonprofit and public organizations and the unique issues associated with this use were also discussed. It underscored measuring methodology and criteria are not always identical to that of commercial industry since organization characteristics and strategic mission determines what the organization website must accomplish, therefore what should be measured. The conjecture is that Islamic websites subject for evaluation share considerable commonalities with nonprofit and pubic organizations in their objective of forming an ideological alliance. The AIC matrix is derived from the conceptual basis of website performance which has been tested empirically for reliability and consistency. Therefore, its application is assessed to be suitable for the subject websites of this thesis.

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IV.   ANALYSIS

A.   INTRODUCTION

As discussed in Chapter II, 28 Islamic websites of various characteristics were selected to assess their web effectiveness. By comparing the websites to the AIC matrix developed in the preceding chapter, this chapter analyzes the findings by identifying the weaknesses and strengths of the websites.   At first glance, most sites already featured the key elements of web communications prevalent in mainstream organizations' websites, such as a combination of rich graphics, downloadable audio and video clips, text based information, membership, and subscriptions to email newsletter.

B.   SCORING

The AIC matrix identified 49 components (or attributes) of three key performance areas of the websites: attracting, informing, and building community. Binary scoring—a simple method of checking off the presence or absence of a component—was determined appropriate for items that are one-dimensional, such as the presence of contact information or a search archive. While imperfect, it is sufficient for this research since each category is sampled adequately to minimize the risk of omitting critical contributing factors. Nonetheless, some components are inherently more intricate than others and the dispersion of quality is too wide, thus binary scoring alone was insufficient. For instance, a site with 10 download errors should not be rated the same as a site with a single error. Similarly, the mere presence of a table of contents cannot be a sole indicator of a structured content presentation.   Therefore, this necessitated the author's individual judgment to balance between an excessive itemization of evaluating criteria and the capture of essential elements. As a result, two-point scoring is also used to complement the binary scoring mentioned above. The score was dispersed between 14 and 38 out of a maximum score of 56 (See Appendix).   This dispersion of scores indicated that the effectiveness of each website varied widely. The entire scoring scheme is summarized in Table 3.

ATTRACT		
	Attribute	**Metrics**
Content	Consistent color and icon	Yes = 1, No = 0
	Visible organization logo	Yes = 1, No = 0
	Page title	Yes = 1, No = 0
	Prioritized layout : Grouping of similar topics Good use of color, animation, size Streamlined and clean appearance	Very good = 2 Good =1 No = 0
	Promote coming event/attraction	Yes = 1, No = 0
	Maximum subtotal	**7**
Structure	Site is search engine registered	Yes = 1, No = 0
	Quick homepage loading	Less than 15 seconds = 1 Over 15 seconds = 0
	No file or downloading error	Error less than 3 = 2 Error between 4 to 6 = 1 Error over 6 = 0
	Visible & Structured content : Homepage is not overcrowded Visible table of content or menu A good categorization of subjects	Very good = 2 Good =1 No = 0
	Balanced use of media : A good combination of visual elements and text based information No distracting media usage	Very good = 2 Good =1 No = 0
	Maximum subtotal	**8**

INFORM		
	Attribute	**Metrics**
Content	Organization background	Yes = 1, No = 0
	Mission	Yes = 1, No = 0
	FAQ	Yes = 1, No = 0
	Easy to find contact information	Yes = 1, No = 0
	Source of document :	Yes = 1, No = 0
	Document creation date	Yes = 1, No = 0
	Author information : Name and credential consistently provided	Very good = 2 Good =1 No = 0
	Contact information regarding document	Yes = 1, No = 0
	Timely information	Yes = 1, No = 0
	Maximum subtotal	**11**
Structure	Various external links	Yes = 1, No = 0

Structure	Context of links	Yes = 1, No = 0
	Notify when link to offsite	Yes = 1, No = 0
	Visible icon to return to main page	Yes = 1, No = 0
	Visible navigation button	Yes = 1, No = 0
	Label of current position	Yes = 1, No = 0
	No back trapping of site	Yes = 1, No = 0
	Search Archive	Yes = 1, No = 0
	System status feedback	Yes = 1, No = 0
	Downloadable media (video/audio)	Yes = 1, No = 0
	Preview of a long download	Yes = 1, No = 0
	Downloadable text	Yes = 1, No = 0
	Downloadable in multi format	Yes = 1, No = 0
	Printer ready	Yes = 1, No = 0
	Email document	Yes = 1, No = 0
	Link to related articles	Yes = 1, No = 0
	Maximum subtotal	**16**

COMMUNITY		
	Attribute	**Metrics**
Content	Newsletter or magazine subscription	Yes = 1, No = 0
	Donate online	Yes = 1, No = 0
	Action link	Yes = 1, No = 0
	Maximum subtotal	**3**
Structure	Encourage feedback	Yes = 1, No = 0
	Bookmark or favorite now	Yes = 1, No = 0
	Email site logo or address to friend	Yes = 1, No = 0
	Reader comment to articles	Yes = 1, No = 0
	Forums or Message boards	Yes = 1, No = 0
	Seed conversation topics	Yes = 1, No = 0
	Secure transaction	Yes = 1, No = 0
	Multi language	Yes = 1, No = 0
	Members only	Yes = 1, No = 0
	Recognize return visitor	Yes = 1, No = 0
	Email alert	Yes = 1, No = 0
	Maximum subtotal	**11**

Table 3.   Scoring Matrix

The score distribution is illustrated in Figure 1.
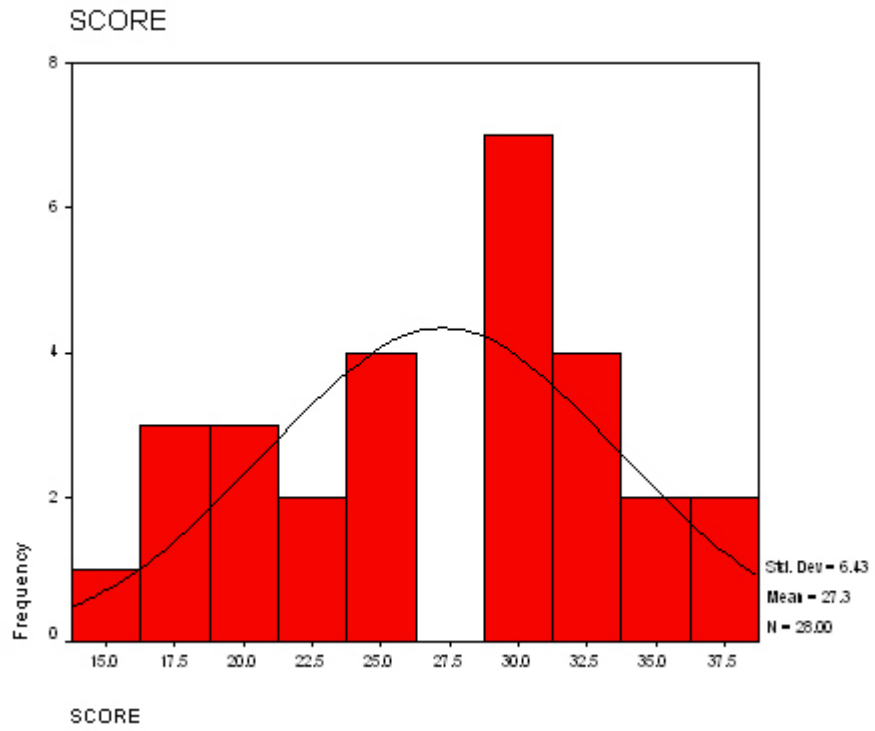
SCORE

Figure 1.   Histogram of Score Distribution (Created by SPSS11.5)

Figure 2.   Screenshot of a scoring chart

	hamasonline.com	moqawama.or	nasrollah.net	Khilafah.com	Hizb-ut-Tahir.o	Tanzeem.org	shareeah.org	jamaat.org	alharamain.org	alminbar.net	iviews.com	jihadunspun.co
	terror/political	terror/political	terror/political	jihadistic	jihadist/polit	polit/jihadis	jihad/polit	political/jihad	religious	religious		
Emphasis											News	news
ATTRACT												
CONTENT												
consistent color and icon 1	1	1	1	1	1	1	1	1	1	1	1	1
logo 1	1	1	0	1	1	1	1	1	1	1	1	1
pg title 1	1	1	1	1	1	1	1	1	1	1	1	1
last update 1	1	0	0	0	0	1	0	1	1	0	0	1
prioritized layout (grouping)	0	1	1	2	2	2	1	2	1	2	2	1
promote coming event 1	0	0	0	0	0	1	0	0	0	1	0	0
Sub Total (7)	4	4	3	5	5	7	4	6	5	6	5	5
STRUCTURE												
Search engine registered 1	1	1	1	1	1	1	1	1	1	1	1	1
quick homepage loading 1	1	1	0	0	1	0	0	0	1	0	1	0
no file/downloading error 2	2	1	1	2	2	2	0	1	0	2	2	0
Visible & structured conten	1	1	1	2	1	1	1	1	1	1	1	1
Balanced use of media 2	2	1	2	2	1	2	1	2	2	2	2	1
Sub Total (8)	7	5	5	7	6	6	3	5	5	6	7	3
INFORM												
CONTENT												
organization background 1	1	0	0	0	1	1	0	1	1	1	0	0
mission 1	1	0	0	0	1	1	0	1	1	1	1	0
project 1	1	0	0	0	1	1	1	1	1	1	0	0
FAQ 1	0	0	0	0	0	1	0	1	0	0	0	0
easy to find contact info 1	1	1	1	1	1	1	1	1	1	1	1	1
source of document 1	1	1	1	1	1	1	1	1	1	1	1	1
document creation date 1	0	1	1	1	1	0	0	1	1	0	1	1
author information 2	0	0	0	0	0	1	0	1	2	1	0	1
contact regarding documen	0	0	0	1	1	1	0	1	1	0	1	0
timely information 1	1	1	0	1	0	1	0	1	0	0	1	1
Sub Total (11)	6	4	3	5	7	9	3	10	9	6	6	5
STRUCTURE												
Various external link 1	1	1	1	1	0	1	1	1	0	0	1	1
context of link 1	0	0	1	1	0	0	0	0	0	0	0	0
Notify when link to offsite 1	0	0	0	0	0	0	0	0	0	0	0	0
icon to return to main page	0	1	1	1	0	1	0	0	1	1	1	1
label of current position 1	0	0	0	1	0	1	0	0	1	0	1	1
visible navigation button 1	0	0	1	1	0	1	0	1	1	1	1	1
no back trapping 1	1	1	0	1	1	1	1	1	0	1	1	1
Search Archive 1	1	1	1	1	1	1	0	0	1	1	1	1
system status feedback 1	0	0	0	0	1	0	0	0	0	0	0	0
downloadable media/audio1	0	1	1	1	0	1	1	1	1	0	0	1
Preview of long download 1	0	0	0	1	0	0	0	1	0	0	0	0

C.   DISCUSSION OF RESULTS

1.   Attract

All websites incorporated graphics extensively to make visual appeals. However, slow loading websites were a common problem.

a.   Graphic Richness

It was clear that all websites took advantage of the graphic richness of the online environment. Each website was marked by unique logos and colors which signify the organization's identity. Articles were often accompanied by images, relating to the article subject. For instance, a picture of collateral damage was typically inserted in anti-war articles. Only 6 of 28 websites were noted for the minor use of photographs (less than 3 photographs). The purpose of using photographs was to display the organizations' recent activities such as a street demonstration or a conference, as well as the

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organizations' leadership. "Hamasonline" provided extensive photo images in tribute to Sheike Achmed Yassin and Abdelaziz Rantiss, a Hamas founder and a leader, respectively, who were assassinated in Israeli military operations. Another common theme of photographs was the perceived Israeli and U.S brutality. "Islamicdigest" and "Islamonline" provided photo galleries which stored over a hundred of images of wounded civilians in Palestine and Iraq, appealing to the truism, "pictures speak for themselves" as seen in Figure 3 and 4.

Figure 3.   A photograph of Palestinians (Source: www.islamicdigest.org)

Figure 4.   A photograph of Iraqis (Source: www.islamicdigest.org)

b.   *Fastloading*

Rich graphics certainly play a role in creating an attractive appearance, but experts urge caution when using them. This is due to the short attention span of users in the web environment. Delays of more than 10 seconds will almost certainly lead to attention loss (Keeker 1997) and users will find other sites to visit. Another contributing factor is the dependency of modem connections for access.   Although broadband technology is quickly spreading in the United States, it may take a few more years to reach a majority of the U.S. population and possibly longer in the other parts of the world. Therefore, the popular modes of access as well as the intended audience are important to consider when designing a website. For the purpose of this thesis, a 49.2 kbps modem was used, given the telephone modem is still the most common mode of access at ordinary households (University of California Los Angeles 2003).   A site received a point if the loading was completed in less than 15 seconds. 13 of 28 sites loaded under 15 seconds, while 9 sites took more than 30 seconds. Offering two versions of a website may mitigate the problem of slow loading. For instance, a site affiliated with "Hizb-ut-Tahrir" provided two versions: one is primarily text based for users with a slow connection while the other incorporates greater visual and audio elements.

c.   *Miscellaneous*

The overall quality of appearance and visual attractiveness varied significantly between sites. However, all sites contained elements of catchy headers, colors, graphics, and content tables that are similar to mainstream websites. "Islamonline"—an Islam information portal website—was a good example of a website that was consistent in color and appearance as seen in Figure 5. The site offered a rich amount of features, but avoided a distracting and flashy appearance by juxtaposing colors and borders to organize the main body of the page. In contrast, the homepage of the "Islamic-world" was a mix and match of images and fonts which did not exude a consistent and structured appearance as shown in Figure 6. However, judging aesthetic appeal is a highly subjective matter. This highlights the need to consider a cultural context when planning and evaluating web based operations.

Figure 5. Example of a structured homepage (Source: www.islamonline.net)

Figure 6. Inconsistent appearance (Source: www.islamic-world.net)

All websites were registered with the "Google" search engine. A search engine is a significant instrument for these websites to make their presence known. This is especially true for organizations whose offline promotional activity is constrained due to its illegal and dubious nature. Lack of promotional activity was one of the common weaknesses of websites. While a drastic make over of a website is not recommended (Kent 2003, p. 17), conveying fresh content and adding new attraction is certainly important (Keeker 1997). 15 out of 28 sites updated the calendar date on their homepages, this did not equate, however, to actual content update. Four of them have not updated regularly, including one site dated back in March 2004. Conversely, 6 of 13 websites that did not display current date on their homepages, did update their contents.

2. Inform : Information Richness vs Information Chaos

No web site falls short of a rich information source in terms of an amount of information. However, a commonly lacking quality was a structured presentation of information. This exacerbates unbounded and chaotic nature of the internet and can potentially overwhelm or disinterest a viewer.

a. Credibility

A website's ability to deliver information is critical, given the fact that the primary reason people go online is in search of information. Experts agree that relevant information content is the single most important factor (Agarwal and Venkatesh 2002, p. 178, Kim *et al* 2002, p.18, and Kent 2003, p.17). It is important for users to perceive the site as reliable and useful to ensure a return visit. Confidence and trust in the website is often synonymous to credibility and relevancy of the site owner. Providing background information such as the biographies of key leaders or the organization's missions can project credibility and relevancy to the user. Most websites assessed offered an introductory page that described the mission, goal, vision, and projects to some extent (21 out of 28).

Often, the source of information was not immediately apparent. Eighteen sites posted articles that were both self-produced as well as adopted from external sources. When the article is hyperlinked to the source directly—instead of being reformatted into the website as 11 sites did —it would be useful to cue the user when the link will lead to a destination outside the original website as well as where the destination

is. This was observed in only one site. The disclosure of the author's name, his credentials, or his contact information for self-produced or contributed articles was not practiced by many websites. No website provided such information on a consistent basis. However, 16 sites provided at least the author's name and 4 sites provided contact information for the user regarding articles.

b. *Prioritization of Content*

The greatest deficiency in many sites was not a lack of information, but too much information without orderly structure, thereby creating information chaos. Merely posting articles or a linear compilation of information it not the greatest merit of a web. Such activity alone does not offer any added value to an information repository in the traditional sense, such as newsletters or encyclopedias. An effective website must provide information in an organized and hierarchical structure by employing the innate technological capability of the internet to its full capacity. A hierarchical information structure groups a wide breadth and depth of information into smaller, but more meaningful and manageable units to prevent information overload or chaos. Websites must prioritize what is most important and display this information in the most visible manner by manipulating color, size, or animation. In the category of prioritized content presentation, 9 sites received 2 points. 17 and 2 websites scored 1 and 0, respectively.

In contrary to experts' advice to keep websites simple and lean, jamming homepages with excessive amounts of information was a common error (7 out of 28). Information overload frustrates users when users cannot find or access the information he or she seeks. This impedes the user's cognitive ability and the user subsequently loses interest. The temptation to prove everything on a homepage must be abandoned (Keeker 1997). A well organized and hierarchical table of contents relieves the problem of information overload. Users are less likely overwhelmed or sidetracked when they can access information in a progressive sequence, thereby broadening their knowledge at their own pace.

c. *Links: Balancing Between Information Breadth and Depth*

The importance of links in the online environment is second to none. The effective use of links can balance information breadth and depth (Keeker 1997). Like television programs, websites seek mass appeal and a wide audience, though maybe to a

lesser extent. A great advancement of the web, however, is the capability to offer a variety of subjects, thereby appealing to a broader audience. The web can concurrently accommodate niche audiences who may seek a greater depth of knowledge of the topic through the use of links. Links are very peculiar with regards to the power relationship between users and site owners. While links fulfill and control the user's pursuit of information at their level, it is done so only through a predetermined path by the site owner. To some extent, links subtly reiterate an organization's agenda through association. Therefore, organizations should be attentive to their links since the characteristics of the associated entities often reflect on themselves, thereby affecting their own credibility and authority.

Eighteen of 28 sites provided links to various destinations outside of the websites. Each website varied greatly in the number of links provided, ranging from one by "Mindspring" to nearly hundreds by "Islamic-World". Providing a description of the link and grouping the links into categories are useful for enhancing information seeking ability. However, only 8 sites provided such features. A good categorization was provided by "nzmuslim" as seen in Table 7. Two sites—"Nasrollah" and "Khilafah"— were noted for a more descriptive context. The website of "Nasrollah" is shown in Table 8.
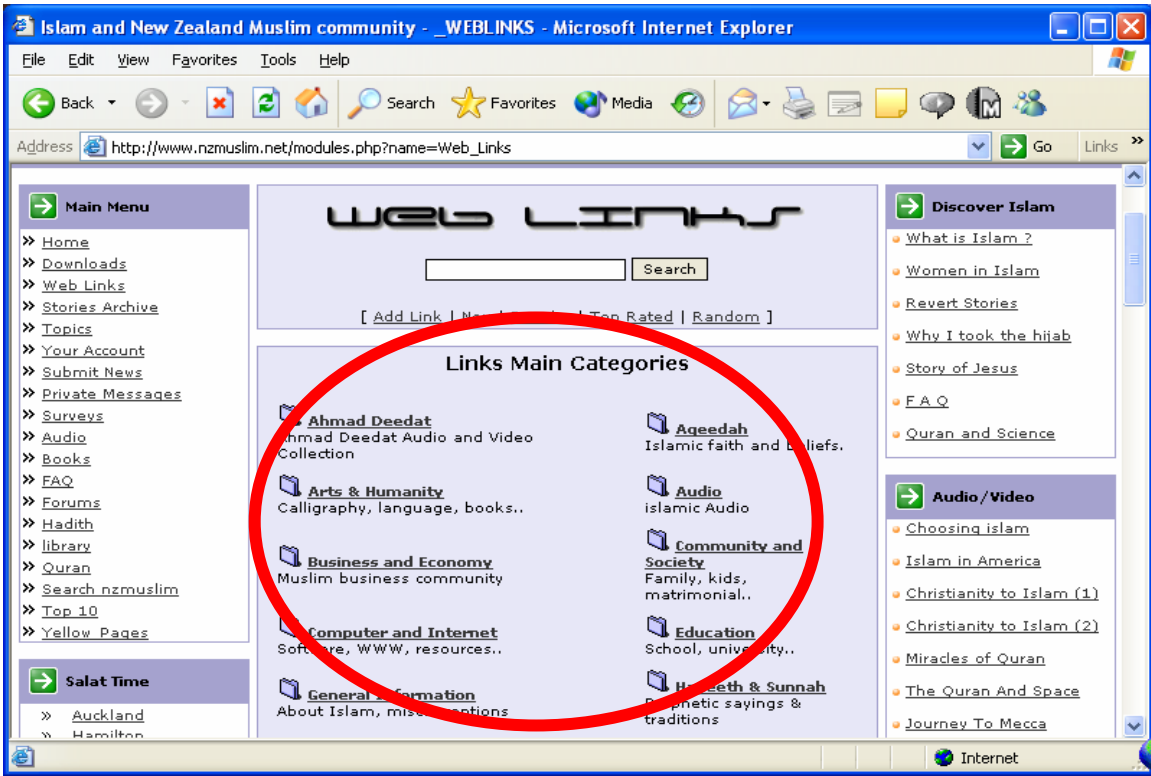
Figure 7.   Example of a good link categorization (Source: www.nzmuslim.net)
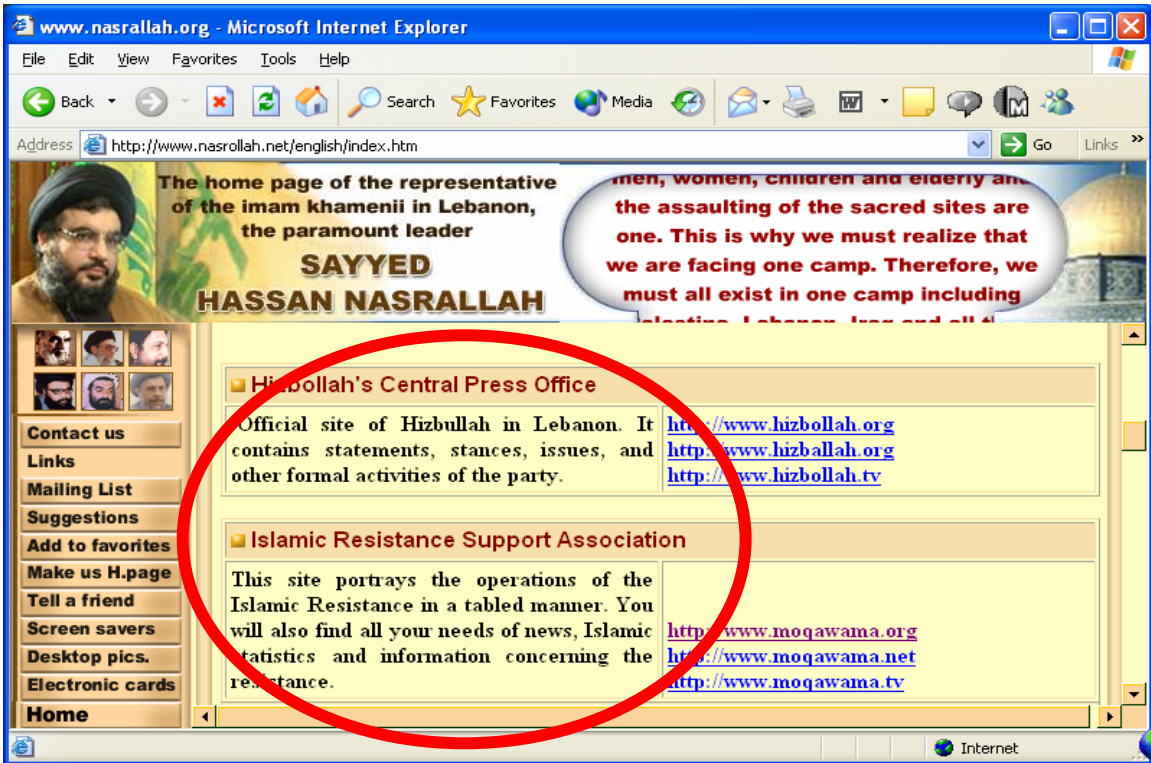

Figure 8.   Example of a good link description (Source: www.nasrollah.net)

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Islamic organizations of various backgrounds—academic, cultural, political, religious resource, and Middle Eastern news media such as Al Jazeera—were the most popular. The endorsement of sites within Islamic organizations, especially of a similar nature was quite common. For instance, the Hizbollah affiliated "Islamic Digest" linked to the official Hizbollah website and "Al Manar", a Hizbollah media organ. The Hizb-ut-Tahrir affiliated news website, "Khalifah", linked to other pro-shariah political websites such as "1924" and "Mindspring". Other frequently promoted sites were "Jihadunspun" and "Islamonline". However, links were not limited to Islamic organizations. News websites such as CNN, BBC, and especially Al-Jazeera were commonly available.

d. *Downloading*

Downloading is another unique web capability. 15 out of 28 sites offered downloadable audio or video clips. Lectures (or sermons) by Islamic scholar or clerics were the most common materials available for download. Several websites also provided Islamic music and print as a promotion tool. Visual and audio media is certainly a powerful means of conveying emotional elements of communication that can be easily lost in text. An audio speech or video of a charismatic speaker can intensify the user's emotions and experience. In a stream of video released following the 9/11 attacks, Bin Laden's calm demeanor and his soft, but confident speech was clearly intended to inspire the Arab audience (Tuman 2003, p. 138).

The amount of downloadable materials available on each site varied significantly. 7 of the 13 sites that featured downloadable media provided less than 20 clips while 6 of the 13 sites provided over 100 clips. However, many website downloads failed due to system incompatibilities or other reasons. Due to the sheer volume of downloadable materials, it was not feasible to test every single one of them. A long download waiting (over three minutes with 49.2kpbs modem) frequently occurred due to large file sizes. The prudent use of audio/visual downloads has been strongly suggested (Keeker 1997 and Kent 2003) in consideration of waiting times for the user. One useful feature that can mitigate the frustration of long download times is to implement an interactive feedback of download context and status, such as the time or file size remaining (Keeker 1997). A warning of a long wait time or a synopsis of the material

also assists the user in establishing a reasonable expectation and making the decision to continue (Keeker 1997). An interactive feedback was lacking in all websites. 9 of the 13 provided the context of the download, such as the name of the speaker, the title, the date, the length of a speech, the file size and occasionally a synopsis of the speech, prior to downloading.

Streaming was also available on 5 sites for media access. Figure 9 shows an example of a helpful download context for the user.
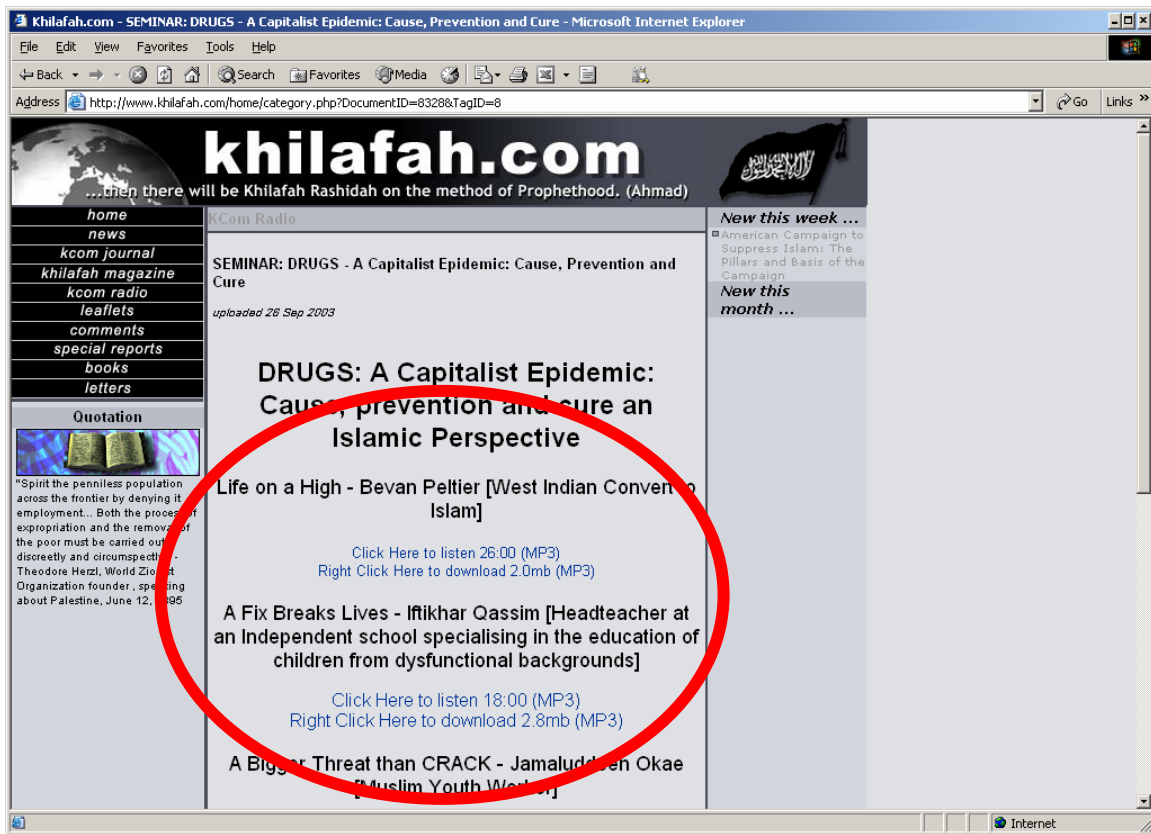

Figure 9.   Example of a good download context (Source: www.khilafah.com)

e.   *Miscellaneous*

Clear labeling enhances easy navigation. Labeling of the current position and an option to return to a main menu or homepage keeps users on track and prevents frustration from purposeless meandering. This simple but extremely useful feature was missing in many websites. (13 out of 28 sites)   Figure 10 and 11 illustrate a good labeling of the current position.

Figure 10.   Example of a good location label by color (Source: www.mpac.org)

Figure 11.   Example of a good location label (Source: www.islamawkening.com)

3.   Community : The Weakest Link

The formation of eCommunity is the least utilized feature on most websites as they fall short of cultivating a sense of belonging, empowerment, and participation. Although innovative web technology is considered ideal and instrumental to shape such an environment, the results indicate that its utility is not maximized by the sites examined for this thesis

a.   Message Boards and Forums

Keeping an open dialogue between members and the organization is a good starting point in building a relationship. Responsive interaction also strengthens the credibility and the perceived reliability of organizations. This in turn induces positive responses from the users towards the organizations' objective.   Providing the organization's contact information is a minimum requirement. Only 2 of 28 sites did not provide any contact information.   However, posting an email address alone is futile unless the organization is committed to sincere and timely responses. Equally important to the relationship between members and organization is a discourse among members to further shape the online relationship into a community. Message boards and forums are a more advanced technique that enables real time interaction without being constrained by location and a number of participants. 7 out of 28 utilized at least one of two features. Of the 7 sites, 2 required a password to enter, and hence precluded a review. All 5 message boards and forums appeared active with current postings.   While this revolutionary communication technology is hailed by visionaries as a marketplace of ideas, some are more wary of its use.   The latter view is attributed to its resource intensiveness required to monitor and moderate. The need for an insightful moderator and meaningful topic was highlighted by the frivolous and immature comments which often smeared the discussion in the moderator's absence.   On the issue of Islam or U.S. policy, most participants already had biased views, often protesting the occasional opposing view with vehement criticism, disparaging remarks, or sometimes name calling. An example is shown in Figure 12 and 13.
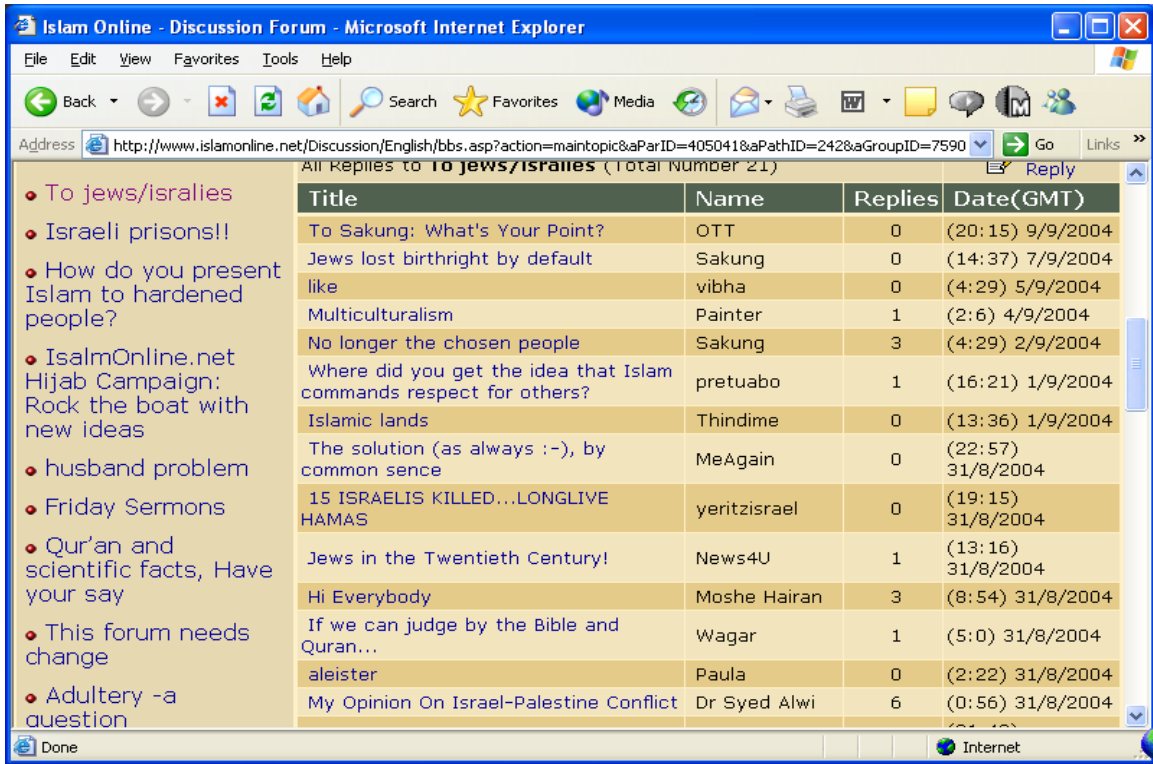
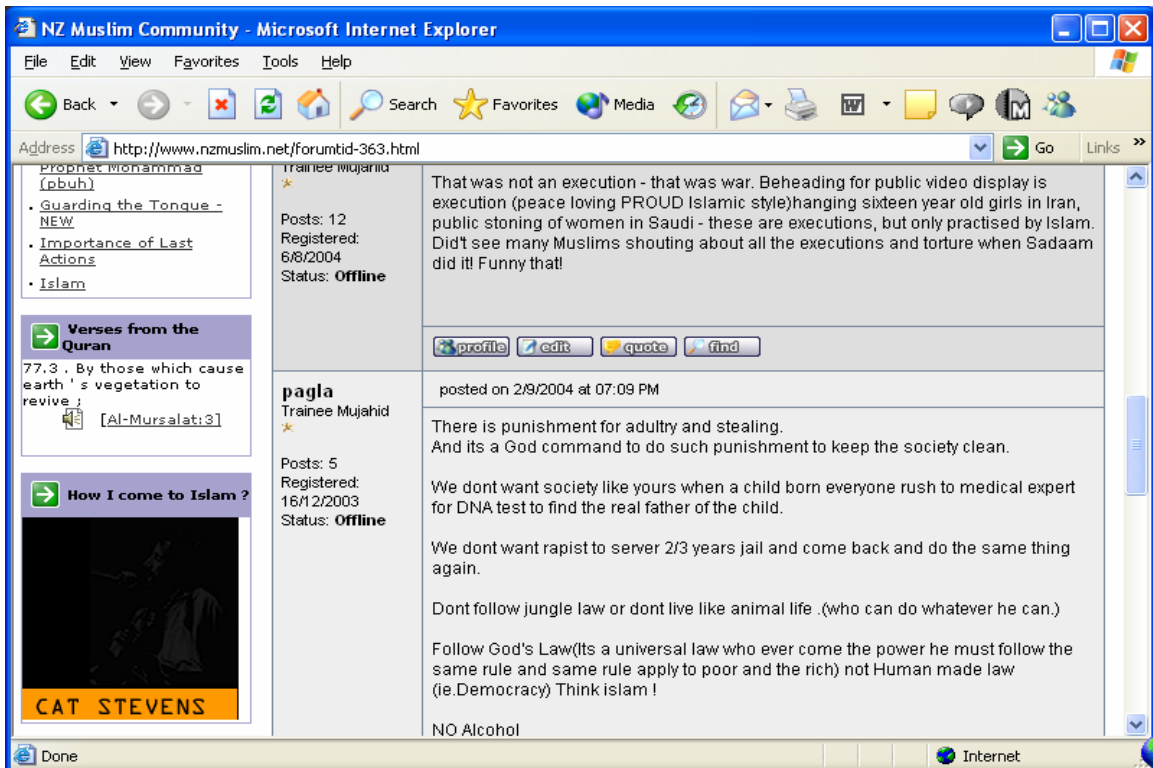Figure 12.   Screenshot of a forum (Source: www.islamonline.net)

Figure 13.   Screenshot of a forum (Source: www.nzmuslim.net)

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b. *From Awareness to Action*

Many websites focus too much attention on raising awareness of the issues, but not enough attention on advancing actions which can generate an impact on the real world. This may include providing an online donation function, an email link to decision makers, and more. Only 8 out of 28 sites utilized their website for fundraising by providing a secure online credit card donation option. Some sites provided an address where the user could make donations by mail. Political activist organizations such as CAIR were more skillful in exploiting this capability. Their efforts included a voter registration guide to impact the upcoming elections and a link to members of Congress. The organization provided a scripted electronic card that the user can email to Congress as a part of the organization's "anti-torture" campaign. Another online campaign endorsed by several Islamic organizations was the "Boycott Israel" campaign. This website listed more than 25 renowned corporations, charging that their business ties and investments in Israel implicate them in Palestinian suffering. The site also provided scripted letters that users can email to each company.

c. *Miscellaneous*

Most organizations offered memberships, which include subscriptions to email newsletters. The capability to email organizational banners, logos, or articles is a useful promotional tool. 6 of 28 sites encouraged and provided a capability to share site logos, banners, or homepages with others via email. 12 of 28 sites provided a capability to email articles. The value to community building lies in the power of "word of mouth" promotion since people are more receptive to recommendations by someone they know. A bookmark option was another useful tool that was offered on 6 sites. On many occasions, the user is taken to a particular site by a complex and untraceable web of links. Therefore, bookmarks can counter the web's random nature and encourage users to return.

V. CONCLUSION

A. SUMMARY OF FINDINGS

This thesis investigated various Islamic organizations' web based influence operations and developed a purposeful methodology to assess the effectiveness of such organizations' websites. In doing so, it was useful to examine commercial industry's practice of web based business operations and their issues and perspectives of web site effectiveness as they have accumulated valuable experiences and lessons through their early pursuit of web based business practice. It was also noteworthy to recognize the web potential and usage by public and nonprofit organizations for the unique strategic goal of creating an ideological alliance that is distinct from commercial industries. Following a comparative analysis of conjectures and published frameworks of web site effectiveness, the AIC (Attract, Inform, and Community) matrix was derived to evaluate the effectiveness of 28 Islamic websites obtained from previous studies.

The AIC matrix identified 49 components of scoring criteria with a maximum possible score of 56. The final outcome of scoring ranged between 14 and 38 with a mean value of 27.3. This result is lower than anticipated based on the gravity and urgency of the problem asserted by previously published reports on Islamic websites. However, these reports often relied on anecdotal evidence rather than empirical data. This disparity may also be attributed to the scoring method used for the evaluation. The AIC approach is still rudimentary and the limitations in representing divergence in quality would make it prudent to examine additional data sets before relying on the conclusions reached in this study. Also, the presupposition to view online Islamic organizations as activist organizations may be an overestimation of the organizations' objectives. This may have been responsible for significantly low scoring on the "community" category, averaging only 1.6 out of 11 points. Raising awareness— exposing U.S. and Israeli injustice from Islamist's perspective—by feeding misinformation and propagandistic messages, may have fulfilled the organization's primary objectives.

As mentioned above, caution is necessary not view the final scores as an absolute indication of the websites' performance due to the elementary scoring method and a lack of comparative data of other websites collected using equivalent criteria. Nonetheless, a gradual and lasting effect of the websites' sophisticated propaganda campaign cannot be disregarded. They certainly manipulate diverse opinions and editorials within the prestigious news media in Western society by selectively highlighting only those that support their image as a victim of U.S. imperialism and help criticize the United States government's policies. Known as "issue framing" and recognized as a controversial subject in mainstream media, this technique has a powerful and manipulative influence on the viewer's perception, attitude, and their receptiveness of the issues (Nelson *et al* 1997). On a similar note, it is imperative to actively combat hate media as the historical lesson clearly proves its malignant effect on population's mind (Kaufman 2002, p. 119).

The strengths of these websites must be recognized and not be underrated. In the category of attract and inform, they differentiate themselves as "an alternative information resource" to attract those who are cynical of mainstream media, thereby inciting skepticism and eroding confidence in U.S. policies and distorting the truth. Most websites presented a rich information environment. The websites' effort to attract new audiences was construed from various features. For instance, online promotional activities such as offering an email account and a subscription, or the option to import and exchange of site banners (or logos) were commonly seen. Their appeal for users to recommend the site to others was especially noticeable. Given the continuous profusion of the Internet and psychological impact of media bias, the Internet presents unprecedented opportunities for anti-U.S. Islamic organizations in pursuit of their cause. They will likely to continue exploiting this technology and refine their skills.

B. FUTURE RESEARCH

The scope of this thesis is limited to the internal factors of websites in evaluating its effectiveness. However, this is only one dimension of web-based communications and does not account for external factors—including audience predisposition, experience, and cultural context—that greatly contribute to the receptiveness of communicated messages. A web experience survey by a large sample audience will provide a better understanding of the persuasive communication effect of the websites investigated. Innovative and

aggressive monitoring and intelligence collection techniques must be developed to identify and understand target audiences of anti-U.S. Islamic organizations. This is necessary to corroborate the pervasiveness of web based information campaigns and the resultant behavior as well as to develop a counter strategy.

In a free society, there is no good way to legally bar hateful messages and disinformation. Instead, more effort must be focused on using the presence of insidious websites to our own advantage by monitoring and learning the adversary's perspective, activities, strengths and weaknesses. Finally, the most important task is to develop an aggressive counter-information campaign strategy that is comprehensive and farsighted. The greatest challenge in this endeavor is not a lack of technological or physical capabilities, but a shift from a paradigm which brands perception management, especially at home, as deceitful and immoral. Further, it is necessary to re-examine our own rationale and role of Public Affairs (PA). The so-called "projection of objective information" by PA representatives is static and predictable. This may have worked when there was a reasonable firewall between the public and the government in terms of sharing information on its affairs. In the global information age, such an approach is insufficient to engage the public and promote U.S. ideas, both at home and abroad, since it has to compete with countless sources of information. Given a lack of legal means against hate messages, the counter strategy can start by offering alternatives.

The Internet undoubtedly presents an unprecedented opportunity for such a strategy as advocated by several studies (Lungu 2001 and Blakely 2003). The findings of this thesis may also serve as a lesson learned for future online information campaigns. A truly strategic information campaign rests beyond the domain of the Department of Defense. Therefore, it is imperative to establish a policy to coordinate and de-conflict within various U.S. agencies that overrides a perpetual bureaucratic, cultural and organizational schism.

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APPENDIX   LIST OF WEBSITES

28 Islamic websites examined in the thesis are listed. Inclusion on this list does not necessarily imply that they are supportive of terrorist groups or engaged in any illegal activities. The websites are selected for research purposes only. All websites were accessed between May through September of 2004.

Organization/Website	URL	Score
Hamas : Hamas fan site.	www.hamasonline.com	24
Islamic Resistance Support Association: Hizbollah website.	www.moqawama.org	20
Nasrollah : A website of a Hizbollah leader, Sheikh Hasan Nasrallah.	www.nasrollah.net	21
Hizb-ut-Tahrir : A radical Islamist political organization that operates in 40 countries with headquarters apparently in London.	www.hizb-ut-tahrir.org	23
Khilafah : Islamic news website affiliated with Hizb-ut-Tahrir.	www.khilafah.com	29
Tanzeem-e-Islami : Islamic movement organization based in Pakistan.	www.tanzeem.org	34
Support for Shareeah : Website of Abu Hamza Al Masri at the Finsbury Park Mosque, UK.	www.shareeah.org	14
Jamaat-e-Islami : Islamic fundamentalist party based in Pakistan, suspected of a link to Al Qaeda.	www.jamaat.org	29

Jihadunspun : Pro-Qaeda and Jihad news site. Distinguished for its sleek media production.	www.jihadunspun.com	21
Islamicawakening : Pro-Qaeda news and discussion forum.	www.islamawakening.com	37
Alharamain Foundation : Saudi sponsored charity organization. Under investigation for alleged financial support to terrorists.	www.alharamain.org	31
Alminbar : Posts numerous anti-U.S. and anti Semitic sermons.	www.alminbar.net	26
Iviews : Islamic news site.	www.iviews.com	31
The Muslim News : Islamic news and online publication site.	www.muslimnews.co.uk	33
The Quest: Anti-U.S. online publication.	www.the-quest.info	18
Jihadonline: Anti-U.S. online publication.	www.jihadonline.bravepages.com	18
Nzmuslim : Islamic web resources.	www.nzmuslim.net	33
Innovative Mind: Anti-U.S. and Pro-Palestine.	www.inminds.co.uk	18
Electronic Intifada: Pro-Palestine online activist.	www.electronicintifada.net	38
Islamic Digest: Anti-West and anti-Israel online publication. Hizbollah affiliated.	www.islamicdigest.org	31

Islamic World: Online resource.	www.islamic-world.net	25
Ummah : Online Muslim directory.	www.ummah.com	30
Islam Online : Islam news and resources.	www.islamonline.net	34
Council on American-Islamic Relations: Political activist organization.	www.cair.net	30
Muslim Student Association: Campus organization allegedly financed by Saudi fundamentalist. Chapters in over 70 universities across the U.S and Canada.	www.msa-natl.org	33
Muslim Public Affairs Council : Political activist organization.	www.mpac.org	33
MindSpring: Anti-US and pro-Shariah activist and online publication.	www.mindspring.eu.com	23
1924: Anti-US and Pro-Shariah activist and online publication.	www.1924.org	26

Table 4.   List of Islamic Websites

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INITIAL DISTRIBUTION LIST

1.   Defense Technical Information Center
        Ft. Belvoir, Virginia

2.   Dudley Knox Library
        Naval Postgraduate School
        Monterey, California

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