BEST PRACTICES USED BY MALAYSIAN ENVIRONMENTAL WEBSITES: A COMPARISON STUDY

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ABSTRACT

This research is the first attempt to cover best practices for environmental websites in Malaysia. We chose five environmental NGOs in Malaysia (ENGOMs) for a case study, and evaluated website practices they used to communicate their missions and goals. A quantitative data was collected and analysed via content analysis of the five ENGOM websites. The content analysis of the websites sought to determine, identify and assess the best practices of the environmental websites features. The research questions focused on the use of online communication (OC) by ENGOMs in order to advocate specific environmental issues and potentially mobilise government or public action on these issues. How do the ENGOMs effectively use the website to communicate their organisations' missions and goals? We conducted an extensive literature review to identify features of websites such as the usefulness of information, interactivity, navigability, and design that have been evaluated as important by previous researchers. Then we used these features as a basis for assessing the effectiveness of the practices of environmental websites in Malaysia. The web content analysis demonstrates that all the five ENGOMs had relatively small websites, providing useful information such as mission, goals, and organisation background. Most of the global issues advocated by them were meant to mobilise support and action. This is considered a rather ineffective use of OC. Interactivity features available across their websites were categorised at a 'low' level of utilisation. The ENGOMs did not fully utilise them for the purpose of conducting online campaigns and encouraging dialogue. The navigability of the five ENGOMs' websites was categorised at a 'good' level, given that the majority of them provided good and easy navigation. The majority of the websites also met the 'well designed' requirements. Overall, the five ENGOMs have delivered most of the best practise features expected in effective environmental websites; Malaysian Nature Society (MNS) was ranked as the best website, while Sahabat Alam Malaysia (SAM) is at the opposite end of the spectrum. ENGOMs' employees expressed views about enhancing their websites to be more interactive in the future. Financial

constraints seemed to be the biggest problem faced by all ENGOMs in their endeavour to develop their websites. However, a key finding is that the websites with more resources did not use them as effectively as websites with fewer resources. Thus, one or two conscientious and well trained employees could be successful with limited resources..

***Keywords**: online communication, interactivity, navigation, web design, online campaigns.*

INTRODUCTION

Best practises research is increasingly used by communications policy researches in the US since 1990s. The use of 'best practices' is currently recommended in wide range of different sectors for promoting improved programmes and interventions by a wide variety of different disciplines and stakeholders. In this case study, the term 'best practices' means that practitioners, from their own experience believe the practices to be feasible and useful to implement and proven to improve high-level outcomes (through making a strong outcome/impact evaluation claim) (Duignan, n.d.). Best practices may be encouraged to identify the best ways of doing things in contrast to inferior ways of doing things so that they do not have to reinvent the wheel in their individual programs or interventions trying to work out what is the best way of doing things, to get more practitioners to use the best way of doing things and to help justify that a program or invention is being well implemented because it is using 'best practices' (Vrontis *et.al*., 2007). Vrontis *et.al*. (2007) argued that an effective way to attract and engage the site visitors, is to deliver real value to them by becoming truly marketing oriented. Best practices are guidelines and not a standard: "Some people may not understand the difference between a guideline of best practices and a standard. A standard is something that is 100 percent firm, and a guideline is something that is usually right – that is why it is called a guideline." (Nielsen, 2002). Therefore, the 'best practice' approach was applied in this case study in order to identify the 'best' ways of evaluating the websites.

Objective of the study

- To investigate how online communication via website best practices such as interactivity, navigation and design features is structured by the ENGOMs to conduct campaigns and encourage dialogue among their web audience.
- To investigate whether online communication of each ENGOM when compared to others developed better practices.

Problem Statement

The range and amount of EOC have expanded rapidly across the globe. However, as a result of all these diverse online pursuits, we are overloaded with information. It is easy to get drown in the mass of information surrounding us. Which information is important, and is the provided information communicated effectively to encourage sustainable awareness? Is a site interactive so that it can communicate information and get input and feedback from the users? Is a site (user friendly) so that ease of navigation helps users access information easily? Is the navigation intuitive so that levels of the website can easily be linked and information can be easily accessed? And Is a site interesting with a proactive design?

Literature Review

The literature explains the best practices approach which has been applied by many environmental ENGOs (ENGOs), thus form the basis of this research. Kraft and Wuertz (1996) suggested that advocacy groups' goal is either to educate or inspire people to take social action. Therefore, the Internet has to be an informational and communication infrastructure for environmental advocacy groups and must present the modes of presentation and interaction for progressive social change to attract people to take action - so that the groups can continue as a powerful political and social force.

The review of the literature indicates that the most common and frequent areas in websites analysis are the website categories or characteristics such as the content or the information provided by the sites, the interactive elements of the sites, the ease of use of the sites like navigation and also the design of the sites. Most important of all, websites are well structured and allow the environmental groups to represent their perspectives, communicate complex environmental issues, and provide large amounts of information to support their missions and goals without any space restrictions associated with other media (Motavelli, 1996; Heimlich & Wang, 1999).

Many environmental group websites seem to adapt to the general web presentation guidelines established by Nielsen (2000), Nielsen and Norman (2000), and Shneiderman (2002) who revealed the important aspects of web presentations very extensively. They mentioned that web design normally includes the combination of the layout, interactivity and navigation of the web. Nielsen (2000), who is referred to as the Guru of Web-design, emphasised that interactivity, the web design,

and navigation were important features in a website. The design of a website should always reflect the needs of its users, and Nelson also stressed that web usability was a combination of factors that affected the user's experience accessing the websites (Nielsen, 2000).

Nielsen (2000), Slater (2000), Shneiderman (2002), and Ivory (2003) discussed ethnographic study of websites and stressed that website designers had to consider, among others, many stages or phases in the web designing, including designing the hypertext links. For example, the relationships between pages are largely enacted through the hypertext links that allow a visitor to move from one page to another. The hyper textual form of the WWW seems a better choice to view social organisation network, rather than as segmented social spaces like communities (Jackson, 1997; Hine, 2000).

Pohl (2003a, 2003b) evaluated how the website of the Agricultural Resource Centre, and Pesticide Education Project (ARC) effectively communicated the mission and goals of the organisation and she argued that the successful Internet communication was strongly dependent on the presentation, navigation, and quality of information. The ARC's website provided information on agricultural issues, local environmental advocacy events, state regulations, and the organisation's efforts to effect social change. In his findings, Pohl (2003b) argued that the ARC site failed to effectively communicate its mission and goals because some of the navigational, organizational, and labelling elements detracted from the value of the content and kept users from finding mission-related content and the site did not include sufficient content to facilitate a complete understanding of the ARC's mission and goals.

Sehmel (2002a, 2004) conducted a content qualitative analysis study on website of Sustainable Energy and Economic Development (SEED) coalition, a small advocacy group based in Austin, Texas, concentrating on the rhetorical aspects of the web such as the visual, textual, and interactive elements. She also counted press releases, reports, photos, logos, and grouped photos as discourse blocs and coded the websites for characteristics from word count to use of an ethos, pathos, or logos related appeal and used hyperlinks to access the materials. Sehmel also considered web levels for the unit placements. The result revealed that the SEED Coalition's websites had characteristics pertaining to all the groups' goals, i.e. encouraging people to take action, and educating people about the environment and the SEED Coalition websites were effectively communicating their environmental goals. Among the recommendations of the research were: the environmental groups

with similar goals should consider how much of the information they provided meet their goals, and the web designers and advocacy groups must continuously investigate the web design and web rhetoric and consider how their website content meet their goals.

The literature review has clearly attributed the different features and factors to website effectiveness and success through the best practices such as usefulness of information, interactivity, navigation, and design. However, despite the fact that a number of identified literature correspond to common websites categories such as usefulness of information, interactivity, navigation, design, etc., little attempt has been made so far to apply all the categories to an entire website as an integrated communication package. Therefore, the literature revealed above displays a gap about the evaluation of the main categories of the websites.

As discovered, previous research concentrated only on one or two categories of the following: web interactivity, web navigation, and web design. This research therefore fills up this gap as it attempts to offer an extensive and a more comprehensive case study of the best practices of environmental websites by investigating the websites content via four categories altogether, such as the usefulness of information, web interactivity, web navigation, and web design and this is beyond what has been done in previous researches.

Apart from the website categories and criteria, determining the site levels for the web evaluation is equally important. As noted earlier, websites vary in size. An average NGO website has about five to fifty web pages, and the bigger one that provides an annual report, for example would have fifty to five hundred pages. These make analysing the websites presentations a challenging process (McMillan, 2000). As website pages range from as little as one page to as many as 50,000 pages (Ha & James, 1998), any analysis of the material will tend to have some limitations. Other than Morville and Rosenfeld (2002) who suggested that a 3-5 level hierarchy is the best practice, ideal level or maximum depth that users are willing to trace; Ha and James (1998), Brinck *et.al*. (2001), Morville and Rosenfeld (2002) argued that a 3-5 level hierarchy is the maximum depth, to which users are willing to 'trace' a link.

METHODOLOGY

Five websites were chosen among the total of nineteen environmental websites available in Malaysia for case study. The criteria set for the selection were: i) Pioneers and active NGOs; ii) Types of issues; iii)

Their roles at different levels such as local, national, regional, and international level; iv) Cultural difference: more local or otherwise, and English language used; v) They are coalitions and their websites are available online; vi) They can be searched via the Yahoo and Google search engines; vii) Website quality; and viii) Category: grassroots, membership, and consultant based.

This case study collected quantitative data from the content analysis of websites then performed descriptive and statistical analysis. The quantitative data was collected by investigating the availability of units coded in the content analysis. In this case study, the analysis of the ENGOM websites was conducted only until Level 3- 3rd deep link (from Level 0 to Level 3) as most of the web experts agreed and suggested, and as what has normally be done in small websites like the ENGOMs.

Categorization of major evaluation criteria of best practices

Since this research is in the area of best practises environmental websites, the discussions in the literature above guided the researcher to evaluate the websites according to the categorisation of major evaluation criteria of best practices. The researcher grouped the categories into relevant evaluation criteria that is, usefulness of information, interactivity, navigation, and design. All the categories or sections in the proposed evaluation criteria of the five ENGOM websites are evaluated and analysed in a systematic way.

Figure 1 below demonstrates a model of how the grouping of the categories that is i) usefulness of information, ii) interactivity, iii) navigation, and iv) design was done and how these categories were sub-grouped into the major evaluation criteria. It also demonstrates how the best practice categories-approach was used to evaluate the websites. The four categories are closely aligned and they form the synergy for the best practice environmental websites. These categories will be evaluated in this particular case study.

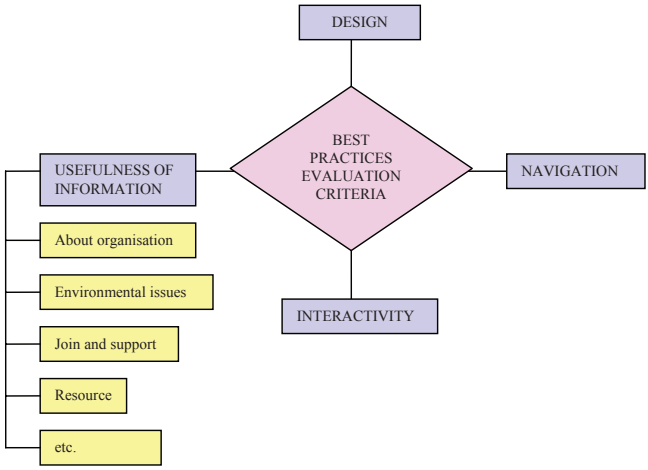

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Figure 1: Grouping categories for best practices evaluation criteria of ENGOM websites

Usefulness of Information

Useful information in this study is defined as the information which is relevant to and supportive of the ENGOMs missions and goals. It must be engaging, compelling, and audience-appropriate, interactive, and comprehensible (Sinha *et.al*., n.d). (Ho, 1996, 1997; Chen & Sheldon, 1997; Martin, 1997; Nielsen, 1998). Chen and Sheldon (1997), and Nielsen (1998) argued that if people turned to the web for content, then they would most likely become repeat visitors of the given website, provided the respective website had useful information or excellent content quality. Bauer and Scharl (2000), Taylor *et.al*. (2001), Bierle (2000), Sehmel (2002a, 2002b, 2004), and Pohl (2003a, 2003b) considered the usefulness of information a priority in any environmental websites. Successful Internet communication is strongly dependent on information (Pohl, 2003a; 2003b; 2004), followed by the presentation and navigation.

Interactivity

Today, more interactive features have been incorporated into some sites, including dialogue boxes, guest books, chat forums, interactive virtual environments and experiments in web pages as social space (Ghose & Dou, 1998) if compared to the past. Sinha *et.al*. (n.d.), classified interactivity as the web support that encourages interaction between the web pages and the users. An interactive webpage encourages user input, support interaction amongst users, provide appropriate links amongst related content and content area, etc. Sinha *et.al*. (n.d.) said, "interactivity

allows the user to take part and be equally involved". The ENGOs via EOC can exploit the common interactive options such as e-mail, chat rooms, online polls, bulletin boards, and others, as these feedback tools can help establish reactive and possibly interactive communication processes (Katz, 1994). Sehmel (2001, 2002a) and Spencer (2002) argued that lack of interactivity facilities on ENGOs' websites would exploit the potential of the Internet to build relationships with supporters, volunteers and sponsors and they suggested that visitors' involvement could be enhanced by providing dialogue or e-mail facilities.

Navigation

Navigation goals are to help people or visitors know where they are within a website, and provide them the options of where to go next. Sinha *et.al*. (n.d.) referred good navigation as the method in which a website user moved through sections consistently, and good navigation provides opportunities for the audience to have dialogue, as good navigation features helped them to conduct their campaigns effectively. This will open the door for dialogue where users will be able to follow the entire forum or view only the parts related to the specific categories. Navigation itself is very significant because the web itself is a navigational system (Nielsen, 1998, 2000) and a good and effective navigation guides users to identify where they are, where they have been and where they can go next within a given websites. Pohl (2003a, 2003b) and Scharl (2004) indicated that good navigational element reflected a good website and emphasised that navigational mechanisms such as structure and accessibility of internal links; external links, or anchor links within and between documents were important in environmental websites.

Design

Sinha *et.al*. (n.d.) highlighted that a well designed website is "…more than just a pretty homepage and it does not have to be cutting edge or trendy. Good design is high quality, appropriate, and relevant for the audience and the message it is supporting. It communicates a visual experience that may even take your breath away". Nielsen (2000) and McLachlan (2002) highlighted that poorly developed web designs affected the overall experience and might deter visitors to find the relevant information on the sites, and ability to search for information. Graphic is part of design, and it creates visual logic or visual presentation and layout (Ivory, 2003). Measuring web presentation from the design point of view requires evaluating the visuals, layout, graphics, colour palettes combination, amount of information displayed, the overall

organization of information gelled with sitemaps, navigation bars, form design, font styles and sizes, and the aesthetic appeal of the website (Spencer, 2002; Ivory, 2003). Scharl (2004a) emphasised that the design, layout and multimedia characteristics, information on frames, embedded pictures, fonts and styles were also important to environmental websites.

When the Online Communication of Each ENGOM is Compared to the Others, One ENGOM has Developed Better Practices than the Others Only quantitative data was used in this study to answer the question: When the online communication of all the ENGOMs is compared, has any one ENGOM developed better practices than the others? Additionally, further comparisons among the five ENGOMs' websites were observed. Answering the research question leads to identification of the ENGOM that possess website best practices.

Table 1: Comparison of the ENGOM websites according to categories

Categories/Criteria	MNS	WWFM	SAM	ENSEARCH	CETDEM
Overall usefulness of information	1 (25)	2 (20)	5 (5)	3 (15)	3 (15)
Interactivity	1 (25)	4 (10)	5 (5)	2 (20)	2 (20)
Navigation	1 (25)	4 (10)	5 (5)	2 (20)	2 (20)
Design	1 (25)	4 (10)	5 (5)	2 (20)	3 (15)
Total marks	**100**	**50**	**20**	**75**	**70**
Final Position	**1**	**4**	**5**	**2**	**3**

Table 1 above reveals the comparative findings of the five ENGOM websites, according to the four categories.

As shown in Figure 1 altogether, four main categories were compared to determine the website with the best practices, they are: i) usefulness of information, ii) interactivity, iii) navigation, and iv) design.

Position number one was given 25 marks; position number two 20 marks; position three 15 marks; position four 10 marks; and position five 5 marks. Then the marks were summed up to get the total marks/ scores and the final position. The findings reveal that in the overall comparison, MNS's site got full marks (100) to get first place, as it came first in all the five categories compared. It turned out to be the best website among the five ENGOM websites evaluated in this research.

RESULTS

Usefulness of Information

Under the usefulness of information category, based on six criteria the ENGOM websites were evaluated and compared to see whether any particular website had developed better practices than others. The criteria are: i) background information of organization; ii) environment issues; iii) campaigns/activities; iv) join and support; v) resource; and vi) photographs that provide means for people to take action. Altogether, fifty-seven units of analysis were coded across the six criteria under usefulness of information category.

The findings revealed in Table 2 below indicate that out of the fifty-seven units coded under usefulness of information category, the MNS site demonstrated to have forty-five (78.9%) units, was placed first; WWFM with forty-one (71.9%) units placed second; both ENSEARCH and CETDEM with thirty-five (61.4%) units placed third; and finally SAM with twenty-seven (47.4%) units placed fifth.

Table 2: Usefulness of information category available on the ENGOM websites

ENGOM websites	Total (%)	Position
MNS	47/57 (78.9)	1
WWFM	41/57 (71.9)	2
SAM	27/57 (47.4)	5
ENSEARCH	35/57 (61.4)	3
CETDEM	35/57 (61.4)	3

Table 2 indicates the total availability and the percentage of the useful information criteria available on each ENGOM website.

Interactivity

Table 3 on the next page shows the twelve units of analysis coded under the interactivity category, namely contact information, dialogue box, rating/poll tool, search tool, web user registration form, user login form, membership application form, membership renewal form, feedback/guestbook form, online donation form, e-cards/e-greetings and articles/news submission form.

As shown in Table 3, out of the twelve units of analysis coded under the interactivity, namely fax, e-mail, telephone, dialogue box, forum, complaint form, rating/poll tool, search tool and others, the MNS site was placed first as it provided eight out of the twelve (67%) interactivity

elements (the highest number) on its site compared to the other sites, such as ENSEARCH and CETDEM which shared the second place provided six out of the twelve (50%) interactivity elements; the WWFM site placed fourth provided five out of the twelve (42%) interactivity elements; and finally the SAM site was placed last as it only provided three out of the twelve (25%) interactivity elements on its site.

Table 3:Interactivity features available on the ENGOM websites

ENGOM websites	MNS	WWFM	SAM	ENSEARCH	CETDEM
Interactivity					
Fax/Email/Telephone	/	/	/	/	/
Dialogue box/forum/complaint form	x	x	/	x	/
Rating/Poll tool	/	x	x	/	x
Search tool	/	/	x	/	/
Web user registration form	/	x	x	x	/
User login form	/	x	/	/	/
Membership application form	/	/	x	/	x
Membership renewal form	/	x	x	x	x
Feedback/guestbook form	x	/	x	x	x
Online donation form	x	x	x	x	x
E-cards/e-greetings	/	/	x	x	x
Article/news submission form	/	x	x	/	/
Total (out of 12) / (%)	**8 (67%)**	**5 (42%)**	**3 (25%)**	**6 (50%)**	**6 (50%)**
Position	**1**	**4**	**5**	**2**	**2**

Since both ENSEARCH's and CETDEM's sites received the same score (6/12, or 50%), they were both placed second, and hence the third place was omitted.

Navigation

Navigation is also crucial for a website. One unit was coded for the navigation category in this case study. Table 4 on the next page indicates the overall number of navigation links analysed on each ENGOM site in this particular case study.

The results in Table 4 indicate that the MNS site had one hundred and sixteen navigation links with 'easy to use' navigation classification and was placed first compared to the others. The ENSEARCH site which had ninety navigation links with 'easy to use' navigation was placed

second; the CETDEM site which had eighty-two navigation links, also with 'easy to use' navigation was placed third; the WWFM site which had one hundred and twenty-six navigation links and classified as 'moderately easy to use' navigation and got fourth place; and SAM site which had seventy navigation links with 'not easy to use' navigation classification and got last place.

Table 4: Navigation links available on the ENGOM websites

ENGOM websites	Total links	Use of navigation	Position
MNS	116	Ease of use	1
WWFM	126	Moderate ease of use	4
SAM	70	Not ease of use	5
ENSEARCH	90	Ease of use	2
CETDEM	82	Ease of use	2

The total number of links as shown in Table 4 above indicates the size of the websites. However, the size of the website did not indicate the ease of use of the site. So, even though CETDEM's site contains fewer than ENSEARCH's site, this does not mean that CETDEM's site is less easy to use than ENSEARCH's. In this case, the position is based on the ease of navigation of the ENGOM websites, and not on the total number of links given on the sites. The classification of 'ease of navigation' was based on elements such as whether the navigation link allows one to move around the site with ease or not; whether the directions for using the site (e.g. help tool) are provided or not; whether the directions are clear or not, and are easy or not to follow; etc.

Design

The category of web design is another important category for environmental websites. For this, the researcher based the twenty four criteria of evaluation on the "WWW CyberGuide", developed by Karen McLahlan (1996).

Table 5: Design features available on the ENGOM websites

ENGOM websites	Yes	No	Total	Percentage	Design classification	Position
MNS	19	5	24	79.16%	Well designed	1
WWFM	13	11	24	54.16%	Moderately well designed	4
SAM	7	17	24	29.16%	Poorly designed	5
ENSEARCH	17	7	24	70.83%	Well designed	2
CETDEM	16	8	24	66.66%	Well designed	3

The availability of each unit was given '1' mark and then the marks were added up to get the total number of the units available as indicated in Table 5 on the previous page. The findings in Table 5 show that the MNS site was classified as 'well designed' and rated first as out of the twenty-four design elements evaluated, it had nineteen (79.16%) design elements available on its site compared to the ENSEARCH site which had seventeen 'well designed' elements out of the twenty-four (70.83%) was placed second; the CETDEM site which had sixteen 'well designed' elements out of the twenty-four (66.66%) was placed third; the WWFM site which had five 'moderately well designed' elements out of the twenty-four (54.16%) was placed fourth; and the SAM site which had three 'poorly designed' elements out of the twenty-four (29.16) was placed last.

Conclusion

The literature review indicates that the good websites generally rely a great deal on the overall best practices of websites such as the quality of the information, the good interactivity, navigation, and design of the sites. Therefore, the Malaysian ENGOMs, like their counterparts in the developed countries, should use their websites more to advocate local, regional and global environmental issues. Therefore, to conclude, the key finding of this thesis is that, regardless of the amount of resources they use, websites can be an effective means of advocating environmental missions and goals, and in helping people realise the importance of the environment to human beings and other creatures.

Suggestions

ENGOMs should provide formal education or training for staff involved with web designing and writing or hire a professional designer and writer to ensure that environmentalists can effectively use their sites to communicate their missions and goals to people at large. ENGOMs

should also stop copying or duplicating work of others, and try to create their own competitive world class websites and must, therefore, learn how to design effective campaigns on their websites.

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