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Benchmarking the Home Pages of the Top Multinational Manufacturing Corporations in the Philippines

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In the information age, having a presence on the World Wide Web is critical for firms to establish and maintain competitive advantage. This study evaluated the Web presence of the top multinational manufacturing corporations in the Philippines. A sample of 70 Web sites of companies in *BusinessWorld*'s list of the Top 1000 Corporations in the Philippines for 2006 was subjected to a framework of ten critical factors; and comparisons were made against existing benchmarks. Thereafter, the functionality of the Web sites of the three top-ranked companies was analyzed using a two-dimensional grid for Web site evaluation. Results indicate that there is a need for improvement in the design and quality of the Web sites of manufacturing firms in the Philippines.

Keywords: Internet, Web sites, benchmarks, Web site design, World Wide Web

During the twilight of the 20th century and at the dawn of the 21st century, the Internet, the World Wide Web, and E-Business became to modern society what textiles, steam power, and iron founding were to the Industrial Revolution: innovations that changed the world. Often used synonymously, the terms "Internet" and "World Wide Web" actually refer to two different things. The Internet is a physical interconnected system of thousands of networks and millions of computers developed over the last four decades; the World Wide Web is one of the Internet's most popular services, which supports specially formatted documents through Web browsers. E-Business, on the other hand, is the application of information technology for internal business processes and commercial activity (Phillips, 2003). Regardless of what term one might use, the Internet is, without a doubt, an important business force.

The objective of this study is to examine the Web presence of Philippine firms, particularly multinational manufacturing corporations. First, the effectiveness of the home pages of the Web sites of these firms will be evaluated across ten critical factors. Then, the functionality of three of these Web sites will be examined through a two-dimensional grid of four Web site functions and four e-business activities. Afterwards, the implications of the findings on entrepreneurs and managers will be discussed. The findings will hopefully give insight to firms regarding the design and quality of their Web sites, and help them to

gain competitive advantage out of an e-business strategy.

REVIEW OF RELATED LITERATURE

The Internet has had a profound impact on business relationships at the corporate, business, and operational levels. The Web sites of firms make up just a small, but very visible, component of the e-business strategy revolution (Phillips, 2003).

Garrett (2003) stated that if a company's site consists mainly of information, then one of the main goals of the site is to communicate that information as effectively as possible. He focused on the five elements of user experience. First, the *surface plane* consists of a series of Web pages made up of images and text. Second, the *skeleton plane* describes the placement of buttons, tabs, photos, and blocks of text. Third, the *structure plane* defines how users get to a page and where they can go when they are finished there. Fourth, the *scope plane* constitutes what a site's features and functions are. Finally, the *strategy plane* incorporates not only what the people running the site want to get out of it, but also what the users want to get out of the site as well.

Sklar (2006) enumerated four major Web design principles: (1) design for the computer medium; (2) creating a unified site design; (3) design for the user; and (4) design for the screen. Based on these principles, he contended that it is important for companies to plan a Web site that stands out and delivers its message.

Since the turn of the century, much has been done to analyze the presence of firms on the World Wide Web. This study paid particular attention to two specific topics: Web site functionality and home pages.

Examining Web Site Functionality

Upon seeing that no comprehensive and coherent set of criteria exists to examine Web sites, Kim, Shaw, and Schneider (2003) proposed Web site evaluation criteria to fill this gap. They used six criteria to examine 728 Web sites across 12 industries. These are: (1) business function; (2) corporation credibility; (3) contents reliability; (4) Web site attractiveness; (5) systematic structure; and (6) navigation. Ultimately, they found that the design of Web sites becomes a critical success factor.

Palmer (2002) earlier reported on a series of three studies that developed and validated Web site usability, design, and performance metrics. By defining usability and design as independent variables to predict the success of Web sites, he hypothesized that the following will be associated with greater perceived success by site users: (1) Web sites exhibiting lower download delay; (2) more navigable Web sites; (3) higher interactivity in Web sites; (4) more responsive Web sites; and (5) higher quality content in Web sites. The hypotheses were supported across the three studies.

Yeung and Lu (2004), meanwhile, proposed a two-dimensional grid for analyzing, comparing, and improving the functionality of commercial Web sites. The grid classified Web site functions into four types: (1) information; (2) communication; (3) downloading; and (4) transaction. It also classified e-commerce activities into six types: (1) advertising and promotion; (2) sales order processing; (3) customer service; (4) financing; (5) physical distribution; and (6) market research. The functionality grid was used in a case study of the Web sites of three oil companies; and the results indicated that commercial Web sites, even those of similar firms, differ in functionality.

Huang, Le, Li, and Gandha (2006) focused on the features of a Web site. They proposed an assessment framework that can be used to categorise and assess commercial Web sites from the perspective of Web-technological features and functions, and to demonstrate its usefulness. These features include: (1) those speeding up online tasks; (2) those establishing multiple communication channels; (3) those providing suitable access to contacts; (4) those making the Web site personal; (5) those providing company information and advertising online; (6) those facilitating customer feedback; (7) those allowing users to control

information detail; (8) those aiding online shopping decisions; and (9) those using multimedia tools. They found that while different companies normally use different Web-technological features and functions on their Web sites, certain features and functions have been more commonly used in designing commercial Web sites than others; and certain differences in the use of Web features and functions on commercial Web sites exist across different industries.

Other works include those by Cao, Zhang, and Seydel (2005), who identified what constitutes Web site quality or what makes a Web site effective by using an IS success model composed of four factors (i.e., system quality, information quality, service quality, and attractiveness); by Tarafdar and Zhang (2005), who performed an analysis of usability and other design characteristics of Web sites of different kinds; and by Melian-Alzola and Padron-Robaina (2006), who examined commercial Web sites and selected several items as representative of the dimension design, such as virtually attractive design, intuitive navigation and uniform style throughout the site, and rapid page download.

The Focus on Home Pages

What the cover is to a book, the home page is to a Web site. An elegant but functional home page will enable a company to communicate its message, and will allow users to make the most out of their experience of visiting the Web site. Several studies have focused on the home page of company Web sites and have identified key factors that make the home page effective in delivering its message.

Tamimi, Rajan, and Sebastianelli (2000) identified 13 factors believed to be critical to the quality of corporate Web sites. They used the following factors to benchmark the home pages of the *Fortune 500* companies of 1999: (1) use of Meta tags; (2) selection of home page titles; (3) selection of domain names; (4) search engine site registration; (5) server reliability; (6) speed of page loading; (7) links; (8) spelling; (9) visibility of contact information; (10) timeliness of information; (11) presence of privacy policies; (12) presence of search engines on home pages; and (13) translation to multiple languages. They found that the corporations were doing well on most factors, but Stevenson (2007) observed that they needed improvement on the last five.

Chai, Sebastianelli, Tamimi, and Rajan (2004) followed up this study by focusing on the banking industry. They identified factors related to (1) home page design; (2) banking services offered online; (3) online banking capabilities; (4) online application process; and (5) customer service and support. Twenty banks were included in the benchmarking study, which found that there are some areas that banks can target for quality improvement; and that the areas that provide real opportunities are those that matter to customers.

Further, Tamimi, Sebastianelli, and Rajan (2005) identified critical factors that make some Web sites more effective than others. The study was spurred by the telling U.S. Census Bureau statistical data showing that e-commerce sales amounted to USD 18.4 billion in the fourth quarter of 2004. 422 consumers, responding to an online survey, indicated that the most important factors had to do with pricing. In terms of home pages, the most important factors were (1) no bad links; (2) contact information on home page; (3) speedy page download time; (4) timely updates on home page; and (5) privacy policy on home page.

THEORETICAL FRAMEWORK

Based on the literature cited above, two frameworks can help evaluate the Web presence of the top multinational manufacturing corporations in the Philippines. The first applies to the home pages of the Web sites; the second to the functionality of whole Web sites.

Benchmarking Home Pages

Ten critical factors have emerged to help benchmark the home pages of the top multinational manufacturing corporations in the Philippines. These were based on the factors used by Tamimi et al. (2000) and Chai et al.

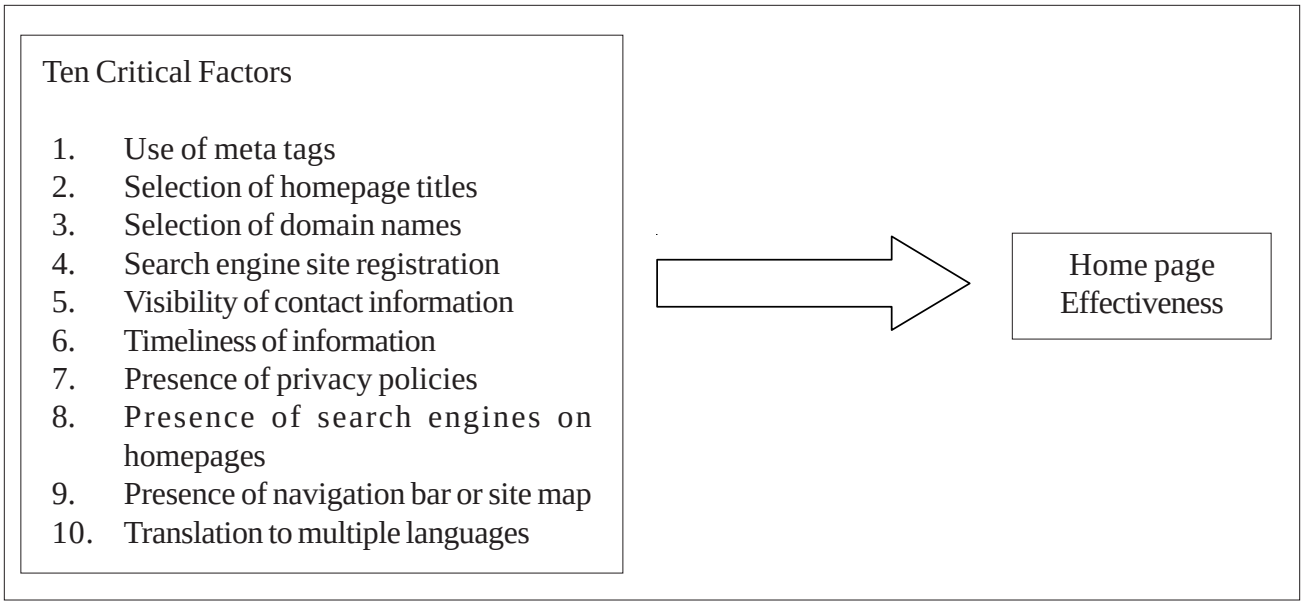

Figure 1
Operational Framework for Benchmarking Home pages

(2004) in examining the home pages of firms in the United States. These contribute to the ability of the home page to accomplish its purpose (i.e., to effectively communicate its intended message to users).

H_0: The home pages of the top multinational manufacturing corporations in the Philippines meet existing benchmarks.

1. ***Use of Meta tags.*** Meta tags are hidden HTML tags that provide site owners with some degree of control over how their Web pages are indexed by spider or robot search engines. Meta tags can increase the relevancy of a Web page when search engines perform searches (Tamimi et al., 2000). In this study, the HTML (Hypertext Markup Language) source codes of the companies in the sample of top multinational manufacturing corporations were examined for the inclusion of two Meta tags in particular: *description*, and *keywords*.

H_1: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the use of Meta tags.

2. ***Selection of home page titles.*** Web page titles are typically designated in the HTML document head section with the *title* tag. Providing home pages with meaningful titles is important because the page title is the first information that is displayed by the browser as the content of the page is downloaded (Tamimi et al., 2000). In this study, a home page title is considered meaningful if it reflects the company's name.

H_2: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the selection of home page titles.

3. ***Selection of domain names.*** A domain name represents the company's unique URL (Uniform Resource Locator) on the Internet. This unique address allows users

to easily locate a Web site. With a domain name that includes a company's trademark, a company ensures that its promotions and commercial offerings are easy to find and remember (Tamimi et al., 2000). In this study, domain names that are similar to the company's name are considered unique and meaningful.

H_3: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the selection of domain names.

4. ***Search engine site registration.*** Once a Web site is up and running, it is critical to register the site with as many search engines and directories as possible. The purpose of registering the Web site with search engines and directories is to expedite indexing the Web site along with the other millions of Web pages (Tamimi et al., 2000). In this study, Google (google.com) was used to retrieve the home pages of the top multinational manufacturing corporations in the Philippines. A successful retrieval of a home page indicates that the corporate Web site has been indexed with the search engine.

H_4: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on search engine site registration.

5. ***Visibility of contact information.*** In this study, the home pages of each of the top multinational manufacturing corporations in the Philippines included in the sample were examined to see if they contained any type of information regarding how to contact the company (Tamimi et al., 2000). In this study, acceptable contact information includes a physical company address, a phone number, a fax number, an e-mail address, or any type of hyperlink, such as *feedback, contact us*, or *e-mail us*.

H_5: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the visibility of contact information.

6. ***Timeliness of information.*** When the date of a home page's last revision is supplied, users can identify the last time the content of the Web site was updated or modified (Tamimi et al., 2000). In this study, the home pages of the top multinational manufacturing corporations in the Philippines were examined for the presence of a date that identified the last time the content of the site was updated.

H_6: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on timeliness of information.

7. ***Presence of privacy policies.*** A privacy policy is a public disclosure statement that describes what information the site gathers, what it does with that information, and with whom this information is being shared. The site must let visitors opt out of giving information, give people access to personal information so that they can make corrections or deletions, assure that data is secure, and get consent before sharing or using data for unintended purposes (Tamimi et al., 2000). In this study, the home pages of the top multinational manufacturing corporations in the Philippines were examined for the presence of privacy policies.

H_7: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the presence of privacy policies.

8. ***Presence of search engines on home pages.*** Corporate information delivered as Web pages can be rather complex and lengthy. To facilitate finding relevant information quickly, each home page should be equipped with a search engine (Tamimi et al., 2000). In this study, the home pages of the top multinational manufacturing corporations in the Philippines were examined for the presence of search engines.

H_8: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the presence of search engines on home pages.

9. ***Presence of navigation bar or site map.*** A navigation bar allows users to go directly to the pages they want. It links the home page to the other main pages of the Web site (Sklar, 2006). A site map, on the other hand is a Web document that lists URLs for a site along with additional metadata about each URL (e.g., when it was last updated, how often it usually changes, and how important it is, relative to other URLs in the site) so that search engines can more intelligently crawl the site (*What are Sitemaps?*, 2007). In this study, the home pages of the top multinational manufacturing corporations in the Philippines were examined for the presence of either a navigation bar or a site map.

H_9: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on the presence of navigation bars or site maps.

10. ***Translation to multiple languages.*** Once a Web site is up and running, translating the site into multiple languages is an option worth considering. Such a consideration is especially important if the products or services being offered have potential selling power in the international market (Tamimi et al., 2000). In this study, the home pages of the top multinational manufacturing corporations in the Philippines were examined to determine if they could be retrieved in at least one additional language other than English.

H_{10}: The home pages of the top multinational manufacturing corporations in the Philippines do not meet existing benchmarks on translation to multiple languages.

Examining Web Site Functionality

A two-dimensional functionality grid has been suggested by Yeung and Lu (2004) for analyzing, comparing, and improving the functionality of commercial Web sites. The data fed into the grid can be very useful for the continual development of a company's electronic business capability in a competitive environment.

Yeung and Lu's (2004) functionality grid covers a range of electronic business activities. For this study, four activities were examined: (1) advertising and promotion; (2) customer service; (3) financing; and (4) market research. Each of these activities appears in different forms across the four types of Web site functions:

1. ***Information-oriented Web site functions.*** These Web site functions are primarily concerned with providing information to users through Web pages (Yeung and Lu, 2004).

2. ***Communication-oriented Web site functions.*** These Web site functions involve the exchange of human-conversational messages and electronic attachments between a firm and its customers and among customers themselves through the Internet (Yeung and Lu, 2004).

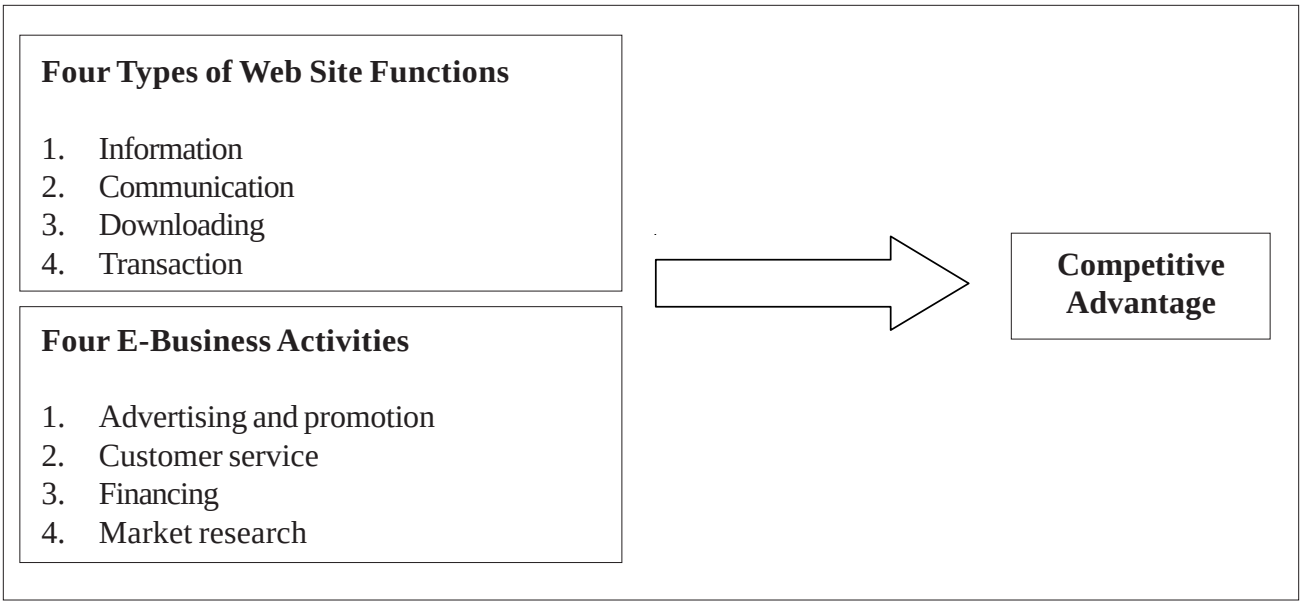

Figure 2
Operational Framework for Examining Web site Functionality

3. ***Downloading-oriented Web site functions.*** These Web site functions involve the transfer of electronic files to other HTML Web pages using the file transfer protocol between a firm and its registered or anonymous customers through the Internet (Yeung and Lu, 2004).

4. ***Transaction-oriented Web site functions.*** These Web site functions involve the online processing of customers' inputs received through a Web site. These functions often involve database operations (Yeung and Lu, 2004).

METHODOLOGY

Among the corporations listed in *BusinessWorld*'s Top 1000 Corporations in the Philippines for 2006, 373 are classified as multinational. Of this number, 235 are in the manufacturing industry. While almost all of the 235 corporations have a presence on the World Wide Web in some form or other, an initial Internet survey revealed that there are less than 100 companies that maintain a Web site specifically for their operations in the Philippines. With some of these companies sharing the same Web site, and some Web sites exhibiting technical issues, a sample of 70 Web sites was used for this study.

The reason for choosing multinational firms for this study is that the global nature of their operations is conducive to having an online presence. Meanwhile, the reason for choosing manufacturing firms is that this industry led the other industries in gross revenue in 2006, and had the most firms represented in the Top 1000. (See Appendix A for the complete list of companies included in the sample.)

To benchmark the home pages of the top multinational manufacturing corporations in the Philippines, the home pages of the 70 Web sites were examined using the ten critical factors that contribute to home page effectiveness. Using simple hypothesis testing for the difference between the proportions of two populations (Berenson, Levine, & Krehbiel, 2002) for each of the ten factors, the results were compared to the existing benchmarks set by Tamimi et al. (2000) for *Fortune 500* companies and Chai et al. (2004) for U.S. banks.

To examine the functionality of the Web sites of the top multinational manufacturing corporations in the Philippines, the Web sites of the three top-ranked companies in the sample were run through the two-dimensional functionality grid. The three companies are: Petron Corporation (ranked 2nd in the Top 1000); Pilipinas Shell Petroleum Corporation (5th); and Chevron Philippines, Inc. (7th). Coincidentally, all three companies are involved in the manufacture of refined petroleum products.

RESULTS AND DISCUSSION

The results of this study are presented in two sections. The first section focuses on the survey of the 70 Web sites. The second section focuses on the case study of the Web sites of the three top-ranked corporations in the sample.

Benchmarking Survey

The results of the survey of the home pages of the 70 Web sites included in the sample are summarized in Appendix B.

1. ***Use of Meta tags.*** Less than half of the Web sites (41 percent) examined made use of the *description* and *keywords* Meta tags. This is significantly below the benchmark of 70 percent for *Fortune 500* companies.

2. ***Selection of home page titles.*** More than 90 percent of the Web sites had home page titles that reflected the company's name. While this is a high proportion, it is still significantly below the benchmark of 97 percent *Fortune 500* companies.

3. ***Selection of domain names.*** Three-quarters of the Web sites (76 percent) had domain names that were similar to the company's name. This is significantly below the benchmark of 91 percent for *Fortune 500* companies. Domain names not considered unique and meaningful were those that used the acronym of the company's official name or another name entirely.

4. ***Search engine site registration.*** Nearly all the home pages (97 percent) were successfully retrieved from Google, which indicates that the Web site has been indexed with the search engine. There is no significant difference between this proportion and the benchmark of 97 percent. (However, this benchmark was set when Google had not yet been established. It is the registration rate of the home pages of the *Fortune 500* companies at Yahoo!, Google's top competitor today.)

5. ***Visibility of contact information.*** All but one of the home pages (99 percent) reflected the company's contact information; most of this came in the form of a hyperlink. This is significantly greater than the benchmark of 74 percent for *Fortune 500* companies. It would not be surprising, however, if the current crop of *Fortune 500* home pages has improved on this benchmark and approached the proportion set by Philippine multinational manufacturing corporations.

6. ***Timeliness of information.*** Only three home pages (four percent) identified the last time the content of the site was updated. This is significantly less than the benchmark of 17 percent for *Fortune 500* companies, which itself needs improvement. Most of the sites indicated the copyright date instead, but this is hardly indicative of the timeliness of the information on the Web site.

7. ***Presence of privacy policies.*** Less than half of the home pages (43 percent) provided a link to the Web site's privacy policy. This is not significantly different from

the benchmark of 53 percent for *Fortune 500* companies. Nevertheless, there is great room for improvement, especially as more and more customers rely on the Internet to perform transactions with firms.

8. ***Presence of search engines on home pages.*** Only 29 percent of the home pages are equipped with a search engine, significantly less than the benchmark of 59 percent for *Fortune 500* companies. It is possible that company Web sites are relying more on navigation bars and site maps instead of installing search engines.

9. ***Presence of navigation bar or site map.*** All but one of the home pages (99 percent) has a navigation bar or a link to the site map. This is at par with the benchmark of 100 percent for U.S. banks. It should be mentioned, however, that navigation bars appear more commonly than site maps, at least in the sample.

10. ***Translation to multiple languages.*** Only two of the home pages (three percent) could be retrieved in at least one additional language other than English. This is significantly lower than the benchmark of 11 percent for *Fortune 500* companies, itself needing improvement. A possible explanation for this is that English is an official language in the Philippines (alongside Filipino), and is primarily used for business communication.

Functionality Case Study

The results of the case study of the Web sites of Petron Corporation (Petron.com), Pilipinas Shell Petroleum Corporation (Shell.com.ph), and Chevron Philippines, Inc. (Caltex.com.ph) are summarized in Appendix C, Appendix D, and Appendix E.

There were several kinds of information that can be found in all three Web sites, particularly company information and product/service information; as well as information about the companies' Health, Safety and Environment (HSE) initiatives and Corporate Social Responsibility (CSR) activities. Each of the Web sites has some unique features, though. Petron.com has extensive investor relations information available on their Web site, as well as dealership application details and a Web mail client for employees. Shell.com.ph, meanwhile, has downloadable HSE and CSR data, a Shell careers login, and an online game for Shell V-Power. Caltex.com.ph has a database of material safety data and product data, and a feature that helps users search for Caltex stations.

IMPLICATIONS ON ENTREPRENEURSHIP AND INNOVATION

Even though the use of Web sites by entrepreneurial firms has been increasing at a significant rate, the majority of small businesses still feel that they do not have the technical capability to build their own Web sites (Hisrich, Peters, & Shepherd, 2005). This feeling hampers entrepreneurs from exploring new ways of doing business, and prevents them from strategically using the Internet to gain competitive advantage.

More than providing information to their customers, their own Web sites can be used by entrepreneurs to apply Web-based business models (Schermerhorn, 2005). Through a *brokerage* model, entrepreneurs can easily bring buyers and sellers together to make transactions. The very nature of the Web allows for more people to transact with one another at a pace unheard of before. Through an *advertising* and *infomediary* model, entrepreneurs can provide information or services while generating revenue from advertising. This is what the founders of Yahoo! and Google, themselves entrepreneurs, have done to generate great results. Through a *merchant* and *subscription* model, entrepreneurs can sell products through the Web. This can be done with a purely virtual store, or in conjunction with a real-world retail establishment.

Another emerging perspective is the role of entrepreneurship and innovation in e-business. While entrepreneurs can get *into* e-business to gain competitive advantage, entrepreneurship itself can help *existing* e-businesses. Zhao (2006) argues that a combination of entrepreneurship and innovation will be a crucial factor to the long-term sustainability of e-business. E-entrepreneurship and e-innovation helps organizations to gain competitive advantage, and raise important issues in their practices.

CONCLUSION

Only in search engine site registration, presence of privacy policies, and presence of navigation bars or site maps did the home pages of the Web sites of the top multinational manufacturing corporations in the Philippines meet existing benchmarks. While the sample greatly elevated the benchmark on visibility of contact information, the home pages still need to improve, particularly in the use of Meta tags, selection of domain names, timeliness of information, and presence of search engines. In terms of translation to multiple languages, the nature of business communication in the Philippines might make this a non-critical factor. It should be noted, however, that more than half the home pages are linked to their respective global Web sites.

Meanwhile, in the functionality case study, Petron.com seems to have the most across-the-board data among the three Web sites if the functionality grid is used. The three Web sites, however, lack functionality on market research, as well as on sales order processing and on physical distribution. This might be due to the fact that the overall purpose of the sites is to provide information about the company, its products and services, and its other activities.

RECOMMENDATIONS

For Philippine firms, especially multinational corporations, having a presence on the World Wide Web is becoming the norm rather than the exception. However, there is still a lot to be done to make their Web sites better at communicating their message to customers and other stakeholders. The 70 Web sites analyzed in this study's benchmarking survey need to improve on certain quality factors like the use of Meta tags, selection of domain names, timeliness of information, and presence of search engines. The three Web sites in this study's functionality case study, meanwhile, exhibit certain types of content and functions that appear in many other Web sites. While they are able to provide extensive information to users about the company, products and services, and HSE and CSR activities, there is still a lot to be done to provide the functionalities for the other e-business activities prescribed in the functionality grid. Firms in other industries, as well as entrepreneurs, might find the factors specified in this study useful as they establish or improve their Web presence.

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Appendix A
The Sample of 70 Web Sites

BW Rank	Company Name	Nationality	Local URL
2	Petron Corporation	Saudi Arabian	www.petron.com
5	Pilipinas Shell Petroleum Corporation	British	www.shell.com.ph
7	Chevron Philippines, Inc.	American	www.caltex.com.ph
10	Nestle Philippines, Inc.	Swiss	www.nestle.com.ph
16	Philips Semiconductors Philippines, Inc.	Dutch	www.philips.com.ph
17	Panasonic Communications Philippines Corporation	Japanese	www.mcp.panasonic.com.ph
22	Toyota Motor Philippines Corporation	Japanese	www.toyota.com.ph
23	Samsung Electronics Philippines Manufacturing Corp.	Korean	www.samsung.com/ph
32	Hitachi Global Storage Technologies Philippines Corp.	Dutch	www.hitachi.com.ph
46	Dole Philippines, Inc.	American	www.dole.com.ph
48	Epson Imaging Devices (Phils.), Inc.	Japanese	www.epson.com.ph
53	Unilever Philippines, Inc.	Dutch	www.unilever.com.ph
55	Honda Cars Philippines, Inc.	Japanese	www.hondaphil.com
63	Honda Philippines, Inc.	Japanese	www.hondaph.com
72	Tsuneishi Heavy Industries (Cebu), Inc.	Japanese	www.thici.com
91	Ibiden Philippines, Inc.	Japanese	www.ibiden.com.ph
99	Sanyo Semiconductor Manufacturing Phils. Corporation	Japanese	www.sanyo.com.ph
101	Colgate-Palmolive Philippines, Inc.	American	www.colgate.com.ph
111	International Wiring Systems (Phils.) Corporation	Japanese	www.iwspc.com
121	Mitsubishi Motors Philippines Corporation	Japanese	www.mitsubishi-motors.com.ph
139	Isuzu Philippines Corporation	Japanese	www.isuzuphil.com
144	Ford Motor Co. Philippines, Inc.	American	www.ford.com.ph
145	GlaxoSmithkline Philippines, Inc.	British	www.gsk.com.ph
153	APO Cement Corporation	Mexican	www.cemexphilippines.com
183	Abbott Laboratories	American	www.abbott.com.ph
184	Pricon Micro-Electronics, Inc.	Japanese	www.pricon.com.ph
187	JG Summit Petrochemical Corporation	Japanese	www.jgspetrochem.com
217	Sharp (Philippines) Corporation	Japanese	www.sharp.ph
238	Ajinomoto Philippines Corporation	Japanese	www.ajinomoto.com.ph
243	AFC Fertilizer and Chemicals, Inc.	Japanese	www.ph.sojitz.com
247	Sony Philippines, Inc.	Japanese	www.sony.com.ph
252	Suzuki Philippines, Inc.	Japanese	www.suzuki.com.ph

257	Pilipinas Kao, Inc.	Japanese	www.kao-phil.com
259	Phelps Dodge Philippines Energy Products Corporation	American	www.phelpsdodge.com.ph
266	United Pulp and Paper Co., Inc.	Thai	www.uppc.com.ph
270	Goodyear Philippines, Inc.	American	www.goodyear.com.ph
283	P. Imes Corporation	Japanese	www.pimes.com.ph
285	Philippine Resins Industries, Inc.	Japanese	www.prii.com.ph
286	AstraZeneca Pharmaceuticals (Phils.), Inc.	British	www.astrazeneca.com.ph
306	First Sumiden Circuits, Inc.	Japanese	www.fsci.com.ph
359	Asahi Glass Philippines, Inc.	Japanese	www.agc-flatglass.ph
363	Asian Transmission Corporation	Japanese	www.asian-transmission.com.ph
364	Daeduck Philippines, Inc.	Korean	www.ddpi.com.ph
385	Nissan Motor Philippines, Inc.	Taiwanese	www.nissan.com.ph
417	Philips Electronics and Lighting, Inc.	Dutch	www.lighting.philips.com.ph
506	F. Tech Philippines, Manufacturing, Inc.	Japanese	www.f-tech.com.ph
537	CJ Philippines, Inc.	Korean	www.cjphil.com
554	American Wire & Cable Co., Inc.	American	www.amwire.com.ph
589	Sanofi-Synthelabo Philippines, Inc.	French	www.sanofi-aventis.ph
590	Dedon Manufacturing, Inc.	German	www.dedon.ph
598	Alliance Tuna International, Inc.	Thai	www.alliancetuna.com.ph
608	General Motors Automobiles Phils., Inc.	American	www.generalmotors.com.ph
623	Indo Phil Textile Mills, Inc.	Indian	www.indophil.com.ph
632	Keppel Philippines Marine, Inc.	Singaporean	www.keppelphilippinesmarineinc.com
638	San Miguel Rengo Packaging Corporation	Japanese	www.smpp.com.ph
646	Triumph International (Philippines), Inc.	Swiss	www.triumph.com/ph
651	ISPL (Phil.), Inc.	Singaporean	www.isplphil.com
653	Hi-Precision Steel Center, Inc.	Japanese	www.hsci.com.ph
673	Gardenia Bakeries (Philippines), Inc.	Singaporean	www.gardenia.com.ph
678	Mabuhay Vinyl Corporation	Japanese	www.mvc.com.ph
699	Orient Semiconductor Electronics Phils., Inc.	Taiwanese	www.ose.com.ph
735	Syngenta Philippines, Inc.	Swiss	www.syngenta.com.ph
809	Essilor Manufacturing Philippines, Inc.	French	www.essilor.com.ph
810	Tong Hsing Electronics Phils., Inc.	Taiwanese	www.tonghsing.ph
849	Hocheng Philippines Corporation	Chinese	www.hcg.com.ph
864	Gotoh Philippines Corporation	Japanese	www.gotohphils.com
915	Air Liquide Phils., Inc.	Singaporean	www.ph.airliquide.com
931	Lexmark International (Philippines), Inc.	American	www.lexmark.com
949	Wesolv Open Computing, Inc.	Japanese	www.wesolv.com.ph
977	Best Chemicals and Plastics, Inc.	Korean	www.bcpifilm.com

Source: *BusinessWorld* Top 1000 Corporations in the Philippines 2006.

Appendix B
Results of Benchmarking Survey

Critical Factor	Existing Benchmark [a]	Survey Result (n = 70)	*p*-value (one-tailed test)
Use of Meta tags	70%	41.43%	1.05×10^{-6} ***
Selection of home page titles	97%	92.86%	0.0388 *
Selection of domain names	91%	75.71%	0.0001 ***
Search engine site registration	97%	97.14%	0.4378
Visibility of contact information	74%	98.57%	2.36×10^{-6} ***
Timeliness of information	17%	4.29%	0.0029 ***
Presence of privacy policies	53%	42.86%	0.0559
Presence of search engines	59%	28.57%	8.12×10^{-7} ***
Presence of navigation bar or site map	100%	98.57%	0.2955
Translation to multiple languages	11%	2.86%	0.0167 *

* significant at $\alpha = 0.05$; ** significant at $\alpha = 0.01$; *** significant at $\alpha = 0.005$

[a] All benchmarks are from Tamimi et al. (2000) except for "presence of navigation bar or site map," which is from Chai et al. (2004).

Appendix C
Web Site Functions of Petron.com

Petron.com	Information	Conversation	Downloading	Transaction
Advertising and promotion	Site map Company info Product info Promotion info Careers info	News	Application form for employment	
Customer service	Dealership info HSE info CSR info *Artpetron* info	Contact info Webmail (for employees)	List of service stations for dealership Dealership application form HSE annual reports CSR annual reports CSR newsletter *Artpetron* application form	Webmail client *Fleetcard Online* login *Credit Card Petron* login *Petron Fuel Success* login
Financing	Investor relations info		Corporate governance Manual Direct deposit enrollment form Direct deposit Information guide Shareholders' information guide Request for consolidation of accounts form Request for Change of Address Disclosures	

Appendix D
Web Site Functions of Shell.com.ph

Shell.com.ph	Information	Conversation	Downloading	Transaction
Advertising and promotion	Site map Company info Product info Promotion info Jobs & careers info	News & media releases	Press Releases Position Papers and Advertorials	Feedback form Jobs & Careers registration/login *Shell Careers Newsletter* sign-up News & media releases search *Shell V-Power* online game
Customer service	HSE info CSR info Terms and conditions Privacy policy	Accessibility info Help info Contact info	HSE Reports *Shell Balita* Shell Sustainability Report Sustainable Development Brochure Environment and Society Data	Search engine

Appendix E
Web Site Functions of Caltex.com.ph

Caltex.com.ph	Information	Conversation	Downloading	Transaction
Advertising and promotion	Site map Company info Product info Promotion info	Press releases FAQ Contact information FAQ		
Customer service	HSE info CSR info Terms and conditions Privacy policy		Material Safety Data Sheets Products Data Sheets *StarCard Online* access application form StarCASH order form StarCASH payment instructions	Search engine Material Safety Data Sheets search Products Data Sheets search *StarCard* Online trial *StarCard* Online login StarCard Online access registration Caltex station search