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EVALUATING THE QUALITY OF PRIVATE UNIVERSITY WEBSITES IN MALAYSIA

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ABSTRACT. This paper focuses on evaluating what are quality components of university websites in Malaysia especially the private universities. It is believed that with websites that prioritize quality, the websites will serve its intended users satisfactory. From the compiled analysis of other studies, quality components were identified and tested among 30 randomly selected respondents. Four Malaysia's private university websites were compared and the highlights were better understanding of what users want for a quality university website.

Keywords: Website evaluation; university website; quality; criteria; user experience.

INTRODUCTION

A website on the Internet serves many purposes of its existence. Depending on the purpose or categories, designing and developing website must be taken care of seriously. For a university, a website serves as communication medium for its current students and staffs along with prospective students. Promoting of its academic programs (marketing purposes) through website is also important especially for private universities. Thus, this paper looks into the important components for a quality university website.

LITERATURE REVIEW

In this section, definition of relevant words or terms or concept will be discussed in detail, which includes website, general website evaluation, university website evaluation and quality university website criteria.

Website

The Internet is a global system of interconnected computer networks across the whole world, providing extensive range of services including accessing interlinked of hypertext documents through the World Wide Web (abbreviated as WWW or W3) or also commonly known as the web. The documents (or web pages) are available on the web, containing text, images, videos and other multimedia elements, and can be navigated between them via hyperlinks. Web pages are used not only to disseminate information in a manner that is impossible with printed documents, web pages are also used for marketing purposes of many organization or business as they provide free and unlimited time-constraints access towards information to a wider community (perhaps difficult to conduct physically).

Website (collection of web pages) has the ability to disseminate information and services broadly; this information essentially provide data about organizations, companies, products,

people, associations and individuals of importance. A website normally publicized information about the history, vision and mission, company's philosophy, products and services, map and location, contact information and current events. It is the center for information about a company.

People of this information age require information timely, freely and ease to reach especially when involving decision-making. Websites allows people to conduct query by themselves at their own pace. Thus, organizations with web pages will have significant advantage over others (Beck, 1997).

General Website Evaluation

With numerous websites made accessible online 24-hours per day, how does one evaluate the quality of these websites? There are no formal specifications as what should be evaluated on websites and contents. When one search on the Internet with the aim of identifying how to evaluate a website; many links refer to the *credibility and trust* of the websites as the accessing criteria.

Stanford Persuasive Technology Lab had prepared a report which summarizes that a website is evaluated based on individual purpose of each website (categories e.g., e-commerce, banking, marketing, newspaper). The report highlighted that credibility defines quality. Each individual category has different credibility results [3, 4]. The group looked into how people evaluate a website's credibility and had identified the nine factors expected from people when they use a website. About 1500 adult Internet users were involved in their survey, and the factors for credibility are as follows;

1. Easy to navigate
2. Trusty information
3. Able to identify source of information
4. Regular updates
5. Easy to find out important facts
6. Knowing who owns the website
7. What business/organization support the website
8. Display seal of approval from other groups
9. Display awards and certifications from other groups

Beck (1997) also identified credible websites are quality websites. Information delivered in the general websites is the main concern when it comes to the website's credibility. He compiled the guidelines or evaluation criterion for evaluating web, by focusing into the matter of authority, accuracy, objectivity, currency and coverage [1, 13].

Besides credibility of information, *user experience* is another factor of concern when it comes to a quality website. Good user experience ensures users ease in navigation and feeling good experiences. Zeng, Salvendy & Zhang (2009) identified that web design is crucial as it has a correlational impact on user behavior. Fogg (2002) also highlighted that the design look of websites was the most prominent factor when one evaluated web site credibility. The design focused on the architectural design of the web which includes HTML file size, image size, number of images, number of colors, navigation tools, screen length, and size of fonts [9, 10].

As this paper looks into university website, it is important to recognize the assessment applied for its category.

University Website Evaluation

Similarly with any other websites, there are no formal specifications on what makes a quality university website. Islam (2012) has focused on credibility of the university websites is based on web impact factor (WIF) on information sharing and delivery, one methodology used in webometrics studies. The aim of the study is to identify which websites have higher WIF value; as the higher the WIF value, the greater the perceived reputation of the website. This will lead to a higher credibility of the website. Gambescia & Paolucci (2009) focused on information shared for a credible website especially for marketing their online degree program offerings.

Good user experiences are of concern for a university website [8, 11, 12]. Islam & Tsuji (2011) focused on university websites in Bangladesh and evaluated on usability factor of the websites. Utulu & Bolarinwa (2012) focused on their evaluation on content and the website architecture. The website architecture design should be easy to understand and use.

Quality University Website Criteria

From the compiled studies made, it is understood that in order for a university website to be a quality website, the two aspects should be the main focus. For a quality university website (Figure 1), the information delivered must be credible and complete and so does the design of the website; the website architecture should be easy to be understood and use which will lead to an experience should be satisfying and positive.



Figure 1: Quality University Website Criteria

OBJECTIVE OF STUDY

This study is an extension of a currently under-going research i.e. the development of a quality university website for UNITEN, Malaysia. The study explores on understanding criteria of a quality university website by comparing and benchmarking to others existing private university websites in Malaysia and as for this paper, the research objective is to investigate what components in an university websites most appreciated by users as new user.

METHODOLOGY

The study collected data, by implementing four data collection techniques;

1. Heuristic evaluation towards a population of twenty private university websites in Malaysia;
2. Interview sessions among webmasters of websites involved;

3. Survey among students; and
4. Think aloud observational techniques among students.

All of these techniques were applied in stages of four cycles (three-month duration for all cycles). These were techniques mostly used for studying usability matters in any system or computer project [2]. This paper will only focus on the fourth technique applied.

The data collection was done between November 2015 until February 2016, with a total 30 respondents participated. They were undergraduate students from UNITEN, Malaysia comprised of Malaysians and international students, equally divided genders (male and female) and aged from 19 - 26 years old. This evaluation process was conducted on four private university websites in Malaysia, selected based on the top ranking on webmetrics¹. The universities selected for evaluation were Multimedia University (<http://www.mmu.edu.my>), Universiti Petronas Malaysia (<http://www.utp.edu.my>), Taylor's University (<http://university.taylors.edu.my>) and Sunway University (<http://sunway.edu.my>). Respondents were observed on their reactions and expressions during testing sessions by dedicated observers. After completion of each session, observers would summarize their notes based on the required components.

RESULT OF STUDY AND DISCUSSION

All respondents were first time users for each of the websites tested. Respondents were given two specific tasks during the think aloud observation session. These tasks are to find out the website that allows respondents to act in a faster response. It is believed that a good website design will allow the respondents to act faster and quicker.

The first task was to register any course of interest online. They were asked to find the webpage for admission or applying online. The second task was to find the link and open the webpage for the Faculty/School of Information Technology or Computer Science.

The results of this data collection only focused on the design aspect as it did not look into the credibility criteria.

Task 1

The average time taken for users to complete the activity at UNITEN university website is 9.71 seconds. The average time rate for completing the task for each website is summarized in Table 1 below.

TABLE 1: Average Time Taken For Task 1 and Comments Made

University involved	Average time taken	Comments made
U1	2.73 seconds	1. Easy because on the homepage, the button for apply online is clearly seen 2. Button 'Apply Now' is on top of webpage - visible 3. That's the first thing that I saw - immediately click on it... yes.

¹ http://www.webometrics.info/en/Asia_Pacific/South%20East%20Asia

U2	22.10 seconds	<ol style="list-style-type: none"> 1. The button to apply online is clearly seen, but I have to scroll down to find the button 2. After scrolling down, then I saw the Apply Now button
U3	13.28 seconds	<ol style="list-style-type: none"> 1. I accidentally press on Enquire Now as I thought that is the link to registration. But, no that was not. 2. On top right, there is a link to admission. Press it and click to another link...but unable to register online. 3. To register, I must find the webpage of the school which offers my program of interest. Why such many level? 4. There is no button to apply online. The website does not allow registration online. 5. I scrolled down and saw the quick access button. Wish that to be on top for easier access.
U4	4.15 seconds	<ol style="list-style-type: none"> 1. Easy as the button was visibly clear, straight at user sighting 2. Button is available in the middle of screen. Easy to detect

The fastest completion in task 1 was U1. It is believed that users could easily complete the task due to the design were done accordingly to priority. For U1, the button/icon was positioned at the right spot (i.e. at the very top of its website) which shows priority. Both U1 and U4 used images as link and positioned the link at top level of users' viewing. This shows that U1 had well-thought the priorities of its websites and allocated the important activities on top viewing of its website. Besides that, U1 had designed appropriate shortcut i.e. dedicated buttons for priority activities. UNITEN's website came in third place for this task. UNITEN's website design did not consider shortcut or specific button for the task. In fact, the current design had allocated the task to be at the near end of viewing which put less priority on the task.

Task 2

The average time taken for users to complete the activity at UNITEN university website is 8.69 seconds. The average time rate for completing the task for each websites is summarized in Table 2 below.

TABLE 2: Average Time Taken For Task 2 and Comments Made

University involved	Average time taken	Comments made
U1	6.49 seconds	<ol style="list-style-type: none"> 1. The first button for the menu was Academic. Immediately I click on it and saw Faculties. 2. The website shows academic at the left side which I saw immediately.
U2	11.48 seconds	<ol style="list-style-type: none"> 1. On the menu listed Academic. So I touch it and faculties appear. Easy 2. I must try each one on the menu to find the faculties link.

U3	11.03 seconds	<ol style="list-style-type: none"> 1. The menu shows Study@Taylor's for its first option. Easy to find 2. It is visibly clear on top of the homepage, Study@Taylor's. I know that must be about courses/programs.
U4	12.92 seconds	<ol style="list-style-type: none"> 1. I like that they arranged the list in table. Clear to see. But, there were so many sub links to finally reach the link for IT programs. 2. I was a bit confused... should i choose program listing or faculties... i chosed program listing since it is the 2nd in the table. But, then, I have to choose based on the list arranged alphabetically... scary... 3. I clicked on program listing but was shocked to see the listing of so many courses... but once I clicked on C, computer science appears in the list. Felt relieved.

The fastest completion in Task 2 was again U1. The information delivered for this task was made easy and clear as there was not many stages of process needed to be done. Respondents were able to gather information required in a shorter time period compared to the others. UNITEN's website was in second place compared to the others. U1 positioned Academic as its first link and the next link was visually arranged neatly (using icons) compared to UNITEN's using text.

User Experiences

Respondents were asked to share their thoughts about which of the university website was the most satisfying to use based on their recent experiences. They were asked to rank each website with 1 as the most satisfying experience and 4 as the most unsatisfying experience and shared their points on what components were most appreciated. The ranking based on average evaluations and comments made are shown in Table 3.

TABLE 3: Average Rating Based On User Experiences and Comments Made

University involved	Ranking	Comments made
U1	1	<ol style="list-style-type: none"> 1. The easiest to use. 2. I like this website as the information was clearly shown. 3. There was not too many link to achieve to what needed to be done, so I'm happy. Not stress. 4. What I like about this website is that it is not crowded. It uses smaller font size and a lot of free spaces. So, users will not be too overwhelmed with visual. 5. Simple design and easy to use. 6. Minimal design and minimal action needed to be taken. Great!
U2	4	<ol style="list-style-type: none"> 1. I don't enjoy having to scroll the homepage in order to find things required. 2. The scrolling down was not enjoyable experience. 3. I find the website has big photos... not keen about that. 4. As the first time user, this website was not as inviting as the others. It is

		designed for existing students not for newcomers.
U3	3	<ol style="list-style-type: none"> 1. Finding information about the university program was a breeze but not in the case for applying online. 2. Information were nicely arranged. 3. The process was easy in finding information. 4. For me the design has too many links... with similar tasks or purpose. Should be simplified for easier understanding of each purpose.
U4	2	<ol style="list-style-type: none"> 1. Simple arrangement as links are categorized in table. But, finding information can be quite time consuming. 2. Simple design, not too much, but acceptable. 3. Nice to look at because of the simple design, but the process was quite complicated in some area.

Summarizing Table 3, respondents prefer university websites to have these elements of design;

1. Minimal design – should not be crowded with photos, images, large font size and too many information squeezed within one screen.
2. Limit the navigational links – the process moving from one screen to another with links should be minimized.
3. Prioritize activities within the website and prepare appropriate shortcuts or buttons for them. Position the prioritized activities on top of the screen.
4. Appropriate information should be able to be read in one screen – no need to scroll down for viewing.

To increase user experience, both design and information delivery is the crucial aspects. This has been proven by the testing sessions done. U1 was ranked as the most satisfying experience due to its simple/minimal design and simplified processes (less links to achieve).

CONCLUSION

This paper provides insights that in order for university websites to be considered as quality websites, considerations must be taken care of on the aspect of user experience where information delivery (or process) and design should be prioritized. Information delivery (process) should be minimized in achieving specific tasks. Meanwhile design should be simplified (no need of overcrowded and large use of images) and with shortcuts that are visually seen at appropriate positions. UNITEN's website can be improved with these considerations.

Further study will be conducted to investigate deeper with other tasks to be completed on the matter of quality components (user experiences, information delivery and design).

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