UNIVERSITY WEBSITE EVALUATION: CASE STUDY OF RANGSIT UNIVERSITY, THAILAND

Malivan PRADITTEERA

College of Digital Innovation and Information Technology, Rangsit University, Pathumthani, Thailand

malivan@rsu.ac.th

Abstract: Rangsit University, established in 1985, is one of the top private higher educational institutions in Thailand. At present, the University has offered 138 degree programs in 36 faculties/colleges. In the 2019 Webometrics Ranking of World Universities, Rangsit University ranked 24th among universities of Thailand, and the 2nd among Thai private universities. Webometrics was first published in 2004 and updated periodically twice a year in January and July. The main purpose of Webometrics is to support Open Access Initiatives to improve access to information on scientific research and scholarly materials published under the electronic form. With the signification of digital transformation, Rangsit University has taken seriously on applying the technology in the teaching-learning process as well as for the marketing outreach. Over the last few years, its faculties and colleges have developed their webpages in order to provide information and communication channel. The University website and faculty webpages become the 24/7 hours communication channel between the University and students, prospective students, parents and public. All websites/webpages have provided the available information of their faculties and colleges such as: academic programs, professor information, research and publications, and students activities, etc. Regarding to the important role of websites and webpages, the objective of this study is to evaluate and report the result for the continuous website development. The webpages of the 36 faculties/colleges of Rangsit University have been evaluated in five (5) components: page and site design, content design, navigation, accessibility and usability. The 28 indicators checklist form has been developed. The results show that there are varieties in webpage component evaluation. For the page and site design component, regarding the units under the same parental institution, there are very different styles in fonts, color, graphic user interface, and homepage presentation. According to content design component, the qualified and accuracy of information are very concerned. More than 30 percent of linkages are broken. Most of websites are developed and hosted under the University main page. Whereas, the navigation technologies and tools are some different standards, for examples: html, asp.net, php, etc. Therefore, the evaluation shows that most of webpages provide the needed and beneficial information for users and readers, especially the academic program offering. The evaluation result indicates that the University shall take part in website development of its faculties and colleges in order to make the website as a digital university. The guideline of website design and development shall be established to create as a corporate identity. University shall constantly strive to maximize the utility and depth of information on their websites while offering pleasing and powerful image to attract potential students and public.

Keywords: Website Evaluation, Webpage Evaluation, Webometrics, Thai University Website, Rangsit University

Introduction

University websites are the gateway to an educational institution and the public face for both academics and athletics. According to Ruffalo Noel Levitz's study on consumer behavior (Levitz, 2014), websites play an important role in providing information for prospective students (both new and transfer), current students, parents, and alumni. Universities have started to create marketing and communication strategies which directly involve the website content and especially the redesign of their home page (Halvorsen, 2014). These strategies help convey various rhetorical messages for visitors. Both the textual treatment and graphic design/photography by designers play large roles in creating a site that gains aesthetic interest and continues to provide better information to the targeted audience.

Rangsit University, established in 1985, is one of the top private higher educational institutions in Thailand. At present, the University has offered 138 degree programs in 35 faculties/colleges. In January 2019 Webometrics Ranking of World Universities Report (2019a), Rangsit University ranked 24th among universities of Thailand, and the 2nd among Thai private universities. Webometrics was first published in 2004 and updated periodically twice a year in January and July. The main purpose of Webometrics is to support Open Access Initiatives to improve access to information on scientific research and scholarly materials published under the electronic form. With the signification of digital transformation, Rangsit University has taken seriously on applying the technology in the teaching-learning process as well as for the marketing outreach. Over the last few years, its faculties and colleges have developed their webpages in order to provide information and communication channel. The University website and faculty webpages become the 24/7 hours communication channel between the University and students, prospective students, parents and public. All websites/webpages have provided the available information of their faculties and colleges such as: academic programs, professor information, research and publications, and students activities, etc.

Literature Overview

Webometrics

The Ranking Web or Webometrics (2019b) is the largest academic ranking of Higher Education Institutions. The original aim of the Ranking is to promote academic web presence, supporting the Open Access initiatives for increasing significantly the transfer of scientific and cultural knowledge generated by the universities to the whole Society. The objective is not to evaluate websites, their design or usability or the popularity of their contents according to the number of visits or visitors. Web indicators are considered as proxies in the correct, comprehensive, deep evaluation of the university global performance, taking into account its activities and outputs and their relevance and impact.

At present, the website is the key for the future of all the university missions. It reflects significantly as the most important scholarly communication tool, the future channel for the off-campus distance learning, the open forum for the community engagement and the universal showcase for attracting talent, funding and resources (Ranking Web of Universities, 2019c).

University Website Design

The credibility of a website affects a user's interest in the site's content and consequently, users tend to spend longer sessions on the site and access more information. Aesthetics and the use of enhanced visual elements (i.e. color, graphics, texture, text formatting, lines, icons) increases the credibility of a website. Studies have shown that judgments on website credibility are 75% based on a website's overall aesthetics" (Alsudani & Casey, 2009, 1). This effect is made truly significant when observing that web users tend to value the professional appeal of a website when deciding which site to select for the same information and services.

Literature reviews shows there are theories and guidelines for universities and academic website design. University and college websites are the digital version of information window for students, parents and public. The design shall focus on an easy navigation, optimizing user experience, consistent information, clear identity, quality of content, and well-designed (Manoverboard, 2014). It is becoming more

concerned to make the university website more successful, more inviting, and attractive, such as simplicity, concise and detailed, keep contact or outreach links to a minimum external link providing, and embed media and images. Therefore, usability is considered the key credentials of effective higher education website design.

The core theory of website design has been focused in 2 concepts: **usability and accessibility**.
1. **Usability of a website** corresponds to how easy it is to find information and navigate the many pages of the site. Usability, or how easy it is to use a site, is critical because if a site is difficult to use, users will go elsewhere for the information or service. Poor usability has been demonstrated to undermine overall site credibility (Youngblood, 2013). It is a web designer's primary responsibility, for the sake of user retention, to create a design that makes it easy for users to find information through a clean and simple navigation system and well-organized content.
2. A**ccessibility of a website** is the usability of a site for users with disabilities related to vision, hearing, cognition, and motor skills, among others. "When websites are not accessible, disabled users are at a disadvantage in an arena that should serve as an equalizer rather than a barrier" (Youngblood, 2013). When designing for accessibility, designers need to create a layout that is adaptable to a variety of disabilities, including those related to vision, hearing, mobility, speech, cognition and learning (W3C, 2008). Designers should refer to the W3C rules and make sure that their design complies with accessibility standards, especially when designing websites for a governmental organization (universities sites included); otherwise, the organizations may face lawsuits related to lack of access. A website can be simultaneously accessible and aesthetically pleasing for the user; the two concepts are not necessarily separate.

University Website Evaluation
There are many frameworks in evaluation the website and related educational web-based systems. Khan (2010) stated that there are 8 dimensions in e-Learning system evaluation. Those are: institution, management, technological, pedagogical, ethical, interface Design, resource support, and evaluation.

1. Institutional: the institutional dimension is concerned with issues of administrative affairs, academic affairs and student services related to e-learning.

2. Management: the management of e-learning refers to the maintenance of learning environment and distribution of information.

3. Technological: the technological dimension of e-learning examines issues of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware and software.

4. Pedagogical: the pedagogical dimension of e-learning refers to teaching and learning. This dimension addresses issues concerning content analysis, audience analysis, goal analysis, medium analysis, design approach, organization, and learning strategies.

5. Ethical: the ethical considerations of e-learning relate to social and political influence, cultural diversity, bias, geographical diversity, learner diversity, digital divide, etiquette, and the legal issues.

6. Interface design: the interface design refers to the overall look and feel of e-learning programs. Interface design dimension encompasses page and site design, content design, navigation, accessibility and usability testing.

7. Resource support: the resource support dimension of the e-learning examines the online support and resources required to foster meaningful learning.

8. Evaluation: the evaluation for e-learning includes both assessment of learners and evaluation of the instruction and learning environment.

Regarding the instruction for learning and teaching in academic environment, the website or homepage was an important interface for learners. Many academic institutions, namely Cornell University, Purdue University, Dalhouse

University, etc., applied and developed the website checklist evaluation framework for faculty members and students in order to assess the quality of websites as knowledge sources. The evaluation framework which has been used the most is the 6 (six) criteria for websites. These six criteria deal with the content of Web sites rather than the graphics or site design.

1. Authority: authority reveals that the person, institution or agency responsible for a site has the qualifications and knowledge to do so.

2. Purpose: the purpose of the information presented in the site should be clear. Some sites are meant to inform, persuade, state an opinion, entertain, or parody something or someone.

3. Coverage: it is difficult to assess the extent of coverage since depth in a site, through the use of links, can be infinite. One author may claim comprehensive coverage of a topic while another may cover just one aspect of a topic.

4. Currency: currency of the site refers to: 1) how current the information presented is, and 2) how often the site is updated or maintained. It is important to know when a site was created, when it was last updated, and if all of the links are current.

5. Objectivity: objectivity of the site should be clear. Beware of sites that contain bias or do not admit its bias freely. Objective sites present information with a minimum of bias.

6. Accuracy: there are few standards to verify the accuracy of information on the web. It is the responsibility of the reader to assess the information presented.

Interface Design is one of the important components in website design. Khan (2005) states that there are 5 main components in checklist for e-learning interface design: 1) Page and Site Design 2) Content Design 3) Navigation 4) Accessibility and 5) Usability Testing. Whereas Waterhouse (2005) stated that the website design could be evaluated in 3 issues: 1) reliability 2) quality and 3) content.

Research Approach

This study aims to evaluate the webpages of the faculties/colleges of Rangsit University, Pathumthani, Thailand. The evaluation includes five (5) components of website: page and site design, content design, navigation, accessibility and usability. The webpage evaluation indicator checklist form has been developed and used for the evaluation and analysis. Each component has been set its checklist indicators: page and site design (8 indicators), content design (6 indicators), navigation (4 indicators), accessibility (6 indicators) and usability (4 indicators). The evaluation process started on February 1, 2019 and ended on March 3, 2019.

Results

Website information

Rangsit University has 38 faculties and Colleges but only 36 of faculties and colleges which offer the academic degree programs have been selected in this study. The website URLs are listed in Table 1.

Table 1: Websites and URL of Faculties and Colleges of Rangsit University

Faculties/Colleges	Website URL
1. College of Medicine	https://www.rsu.ac.th/medicine/
2. College of Dental Medicine	1. http:// www.rsu.ac.th/dental/ 2. http://110.164.186.95/dental/
3. College of Pharmacy	https://www.rsu.ac.th/rsupharmacy/
4. Faculty of Nursing	https://www.rsu.ac.th/nurse/mainpage.php
5. Faculty of Science	https://www.rsu.ac.th/science/
6. Faculty of Physical Therapy and Sport Medicine	https://www.rsu.ac.th/ptrsu/
7. Faculty of Medical Technology	https://www.rsu.ac.th/medtech/page/home.html
8. College of Oriental Medicine	https://www.rsu.ac.th/orientalmed/
9. Faculty of Optometry	https://www.optometry-rsu.com/
10. College of Biomedical Engineering	http://bme.rsu.ac.th/
11. Faculty of Radiological Technology	https://sites.google.com/rsu.ac.th/rtrsu
12. Aviation Institute	https://www.rsu.ac.th/pilot/
13. College of Engineering	https://www.rsu.ac.th/engineer/
14. College of Digital Innovation and Information Technology	https://it.rsu.ac.th/
15. College of Agricultural Innovation Food and Biotechnology	https://www.rsu.ac.th/cab/
16. College of Communication Arts	http://ca.rsu.ac.th/
17. Faculty of Liberal Arts	https://www.rsu.ac.th/libarts/Index.asp
18. Faculty of Law	https://www.rsu.ac.th/law/
19. College of Social Innovation	http://www.csirsu.com/
20. Suryadhep Teachers College	https://www.rsu.ac.th/education/
21. Institute of Criminology and Justice Administration	https://www.rsu.ac.th/cja/
22. School of Politics, Economic and Globalization	http://www2.rsu.ac.th/PUBLIC-GOVERNANCE/Default.aspx

23. Institute of Public Policy and Management	http://www2.rsu.ac.th/PUBLIC-GOVERNANCE/Course-Public-Administration.aspx
24. Institute of Political Science	http://www2.rsu.ac.th/PUBLIC-GOVERNANCE/Course-Political-Science.aspx
25. Institute of Diplomacy and International Studies	https://idis.rsu.ac.th/
26. Institute of Economics	https://www.rsu.ac.th/econ/
27. Faculty of Business Administration	http://www.rbsrsu.com/
28. College of Tourism and Hospitality	https://www.rsu.ac.th/hospita/Default.aspx
29. Faculty of Accountancy	http://acc.rsu.ac.th/
30. Conservatory of Music	https://www.rsu.ac.th/music/
31. Faculty of Architecture	https://sites.google.com/rsu.ac.th/archrsu/
32. College of Design	http://www.artanddesignrangsit.com/
33. Digital Art	https://www.rsu.ac.th/digital/
34. International College	https://www.rsu.ac.th/international/
35. International Chinese College	http://www.rsuicc.com/index.php/th/
36. Rangsit Cyber University	https://cyberuonline.rsu.ac.th/

Source: Rangsit University Website, 2019.

Evaluation Results
1) Page and site design
As shown in Table 2, regarding the units under the same parental institution, there are very different styles in fonts, color, graphic user interface, and homepage presentation.

Table 2: Page and site design

No	Indicators	Yes	No
1	Institutional design	29	7
2	proper fonts and type setting; the text size and color readable	36	0
3	proper color and theme	36	0
4	colors are used harmoniously	25	11
5	appropriate composition	30	6
6	a site map menu	0	36
7	website visitor measurement/web countering	4	32
8	webmaster information on webpage	2	34

2) Content design

According to content design component, there are varieties on content. The most standard contents are provided on the website such as academic programs, lecturers, research, awards, student projects and activities. The similar content may be presented differently. Some presented as static photos and texts while some as multimedia ones. In other way, the currency and accuracy of information are very concerned.

Table 3: Content design

No	Indicators	Yes	No
1	Required contents/information are presented on website	32	4
2	content and information on website are organized in a good sequent	32	4
3	each page has a clear purpose	36	0
4	copywriting style appropriate for target group	36	0
5	any spelling errors or outdated content	16	20
6	contact information provided	36	0

3) Navigation system

Most of websites are developed and hosted under the University main page. However, the navigation technologies and tools are some different, for examples: html, asp.net, php etc. Most of them are not compatible for mobile device platform in term of page presentation and screen fitness.

Table 4: Navigation system

No	Indicators	Yes	No
1	How intuitive is it to navigate on website	30	6
2	Standard Navigation tool/technology used	36	0
3	Website can be browsed by any internet browser	36	0
4	Website can be surfed from mobile application platform	21	15
5	more than 10 seconds on website/webpage loading	6	30

4) Accessibility

There are 2 ways in accessing the websites, direct by its URL and redirect from the University main page. Most of websites are developed and hosted under the University webserver. However, 30 percent of websites have the broken linkages and not accessibility. The 10 webpages are found that the important links such as faculty member's curriculum vitae and research profile, academic program offers cannot be accessed or browsed.

Table 5: Accessibility

No	Indicators	Yes	No
1	Website can be accessed via direct URL	33	3
2	Website can be accessed indirectly from the University main page	33	3
3	Website can be browsed and presented the same by any internet browser	36	0
4	Website can be access and browsed via mobile platform	30	6
5	Website can be search from any search engine (Google, Yahoo, etc.)	36	0
6	Any Broken linkage	10	26

5) Usability

The evaluation shows that most of webpages provide the needed and beneficial information for users and parents, especially the academic program offering, professor information and research profiles. The webpages are designed in simple and user friendly concept. Therefore, a few webpages do not provide the access for downloading. In addition, when assessing the functional menus on pages, they are found that there are some lacks of important and related links such as library, student services, intranet registra service, research services, etc.

Table 6: Usability

No	Indicators	Yes	No
1	the provided information is really valuable for visitors	32	4
2	Any process on website is working through well	33	3
3	database on website is reachable	33	3
4	totally be comfortable and convenient to use (user friendly design)	36	0

Conclusion and suggestions

The websites of faculty, school and college of Rangsit University are mostly qualified in term of the website component indicators of 1) Page and Site Design 2) Content Design 3) Navigation 4) Accessibility and 5) Usability. The evaluation shows they are mostly developed under the same platform (on university hosting service). The standards of web technology development are varied but the presentation of content and process are quite similar. There are 30 percent of webpages that contain the broken links and inaccessible contents. There are a few that put the database links on its websites and cannot be reachable. Totally they are all user friendly and simple to use.

The evaluation result indicates that the University shall take part in website development of its faculties and colleges in order to make the website as a digital university. The guideline of website design and development shall be established to create as a corporate identity standard. University shall constantly strive to maximize the utility and

depth of information on their websites while offering pleasing and powerful image to attract potential students and public.

References

Alsudani, F., & Casey, M. (2009). The effect of aesthetics on web credibility. Retrieved from:
http://www.bcs.org/upload/pdf/ewic_hci09_paper66.pdf

Beck, Susan. (1997) "Evaluation Criteria." The Good, The Bad & The Ugly: or, Why It's a Good Idea to Evaluate Web Sources. New Mexico State University. Retrieved from: http://lib.nmsu.edu/instruction/evalcrit.html

Bordbar, Fatemeh. (2016). The Effectiveness of Website Design in Higher Education Recruitment. Master Degree Thesis in Professional Communication, Southern Utah University.

Caglar, Ersin and Mentes, S. Ahmet. (2012). "The usability of university websites - A study on European University of Lefke" International Journal of Business Information Systems 11(1):22-40 (August   2012).

Cornell University Library. (2019) "Website evaluation." Retrieved from:
http://www.library.cornell.edu/olinuris/ref/research/webeval.html

Dalhouse University. (2019) "6 Criteria for Websites." Retrieved from:
https://cdn.dal.ca/content/dam/dalhousie/pdf/library/CoreSkills/6_Criteria_for_Websites.pdf

"5 Lessons for Designing a Good University Website." Manoverboard.com. (2014). Retrieved from:
https://manoverboard.com/5-lessons-for-designing-a-good-university-website/

Gardner, Susan A., Benham, Hiltraut H. and Newell, Bridget M. (1999) "Oh, what a tangled web we've   woven! Helping students evaluate sources." English Journal, (Sept. 1999): 39-44.

Halvorsen, T. (2014). Breaking the Mold.edu. Retrieved from: https://www.fastspot.com/blog/breaking-the-edumold/

Khan, B. H. (2010). The Global E-Learning Framework (Chapter 5). In B. H. Khan (Ed.),
Elearning (pp. 42-51). Englewood Cliffs, NJ: Educational Technology Publications.

Levitz, R. (2014). 7 things we learned this year about college students and higher education enrollment management. Retrieved from: http://blog.noellevitz.com/2014/12/11/2014-noel-levitz-researchhighlights-7-things-learned-year-college-students-higher-education-enrollment-   management/

Manzoor, Mirfa, Hussain, Walayat, Ahmed, Aftab, and Iqbal, Mohammad Javid. (2012). "The Importance of Higher Education Websites and its Usability", International Journal of Basic and Applied Sciences, 1 (2) (2012): 150-163.

Purdue University (2019) CORE (Comprehensive Online Research Education). Retrieved from:
http://gemini.lib.purdue.edu/core/default.cfm

Rangsit University (2019) "College and Faculty" Retrieved from: https://www2.rsu.ac.th/faculties/faculty

Ranking Web of Universities. (2019a) "Thailand Ranking Web of Universities." Retrieved from:
https://www.webometrics.info/en/Asia/Thailand

Ranking Web of Universities. (2019b) "Webometrics Ranking of World's Universities: Methodology."
Retrieved from: http://www.webometrics.info/en/Methodology

Ranking Web of Universities. (2019c) "Objectives of the Webometrics Ranking of World's Universities."
Retrieved from: http://www.webometrics.info/en/Objetives

W3C. (2018) Web Content Accessibility Guidelines (WCAG) 2.1. Retrieved from:
https://www.w3.org/TR/WCAG/

Waterhouse, Shirley. (2005) The power of eLearning: the essential guide for teaching in the digital age. Pearson's Pubishing.

Youngblood, N. E. (2013). Integrating usability and accessibility into the interactive media and communication curriculum. Global Media Journal: American Edition, 1-37.

"Your guide to a successful university website" (2016). Retrieved from:
https://www.studyportals.com/blog/your-guide-to-a-successful-university-website/