Study of Web-Based Information Retrieval in Schools: A Case Study Republic of Maldives

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Abstract: **Today, the advent of web technologies has brought a sea change in the business scenario of not only the commercial organizations, higher academic institutes but also the lower educational institutions. The organizational goals can be achieved more easily and efficiently by reaching out to a vast population through the medium. Educational institutions create their websites for a wide range of purposes which mainly include distribution of information to the public, delivering online learning facilities to students, promotion of their educational and vocational programs, and the like. A website with good quality enables an educational institution to gain a competitive edge over its counterparts. Thus, it is of utmost importance to explore those factors which highly influence the user's attitude towards on school websites which helps the organizations to chalk out a successful e-strategy for the purpose. However, this study analyses of Maldivian schools' websites for information retrieval, how to improve the overall quality of Maldivian schools' websites which can be considered as the chief predictor of perceived end-users' satisfaction is ephemeral in nature while its regular evaluation forms the image of quality about a particular service over a long period.**

Keywords: **Websites, School, Information and Maldives.**

INTRODUCTION

Most of the existing studies have evaluated the websites quality of business organizations, but the educational sector has failed to attract the attention of researchers and web designers. The issue assumes greater significance, especially in a least developed country like Maldives. Maldives where a website development and deployment activity is primarily facing the shortage of formalized website design techniques and testing procedures. Thus, the current study, conducted in Maldives, is a modest attempt to have a quality on the basis of various dimensions.[1]

However, the first objective of the study focuses on exploring the bare minimum required content categories about which information should always be available on Maldivian schools' website irrespective of their status and second or third objectives at analyzing and compares the scalability and performance of selected school websites of Maldives by means of load testing and studied to know about the sort of experience gained by a user while interacting with the website.[2]

PROBLEM OF ACCESS

A well-planned information architecture of a website can enhance the end-users' efficiency, learnability, controllability and intention to revisit the site. However, it remains a neglected issue as designers of school websites have overlooked the important aspect of intuitive user navigation' and focused primarily on its look and feel. Thus, the non-functional requirements of a website are often described as its 'quality attributes.' A website is usually required to satisfy such requirements which many include accessibility, compatibility, performance, security, and usability. However, end-users do not regard all these quality factors as equally significant for different types of websites as characterized by their different business patterns, products/services delivered, and nature of interactions and transactions performed. In the context of school websites, users are mostly concerned with finding the requisite information with case in a timely fashion. Also, website loading time needs to meet the expectations of users, otherwise, they will either prefer to redirect the search engine to another site or give up their search. Keeping these facts in view only the performance and usability characteristics should have examined. Simulation of realistic users' behavior is achieved through load runner, a software tool for performance testing. The most common website problems while an end-users face during access;

- Poor or dated visual design. Nothing makes a customer say "no thanks" as quickly as a really gruesome home page
- Slow upload speed
- Lack of quality images
- Poor or confusing user journey
- Low standard of written content
- Hidden details or no obvious point of contact
- Badly integrated

However, a number of factors and elements pertaining to user interaction contribute towards forming a positive or a negative perception about a website. User interfaces are used differently by the people from different countries and cultures. They prefer different graphical behavior patterns and expectations. These facts reinforce the need to explore all those factors which address the specific aspects of Maldivian schools' websites.[3]

CONTENT CATEGORIES OF MALDIVIAN SCHOOL WEBSITE

The websites created by the Maldivian schools, mainly serve the purpose of advancing their mission and brand name by providing trouble-free online services and valuable information to their content quality in accordance with the requirements and expectations of the end-users. It always remains a challenge to cater to the needs of its varied target users teaching staff, non-teaching staff, students, parents, donors, trustees etc. This study also highlights the bare minimum required content categories about which information should always be available on school websites irrespective of their status. Further, the identified content attributes are evaluated in relations to the importance given by the stakeholders of school websites. It is as follows:

Table I: Content Categories with Content Items of a School Website subjected it IPA Analysis both Government Schools and Non-Government Schools

Attributes No.	Attributes/Categories	Content Items
1.	About us	Accreditations and recognitions, annual progress reports, campus map, principal & vice-principal message, important landmarks/milestone, location & how to reach, new initiative & recent achievements, school kulgeet & emblem, School policies & school profile, vision, mission & core-value
2.	Administration	Principal & vice-principal, office, staff
3.	Admission	Academic calendar, admission procedure, admitted & the waiting list of candidates, contact us, download forms, eligibility criteria, notice board, fee-structure details refund policy (application fee) Schedule & seat reservation policy
4.	Affiliated Institutes	Government & private
5.	Examination	Date of receipt of forms for exams, date sheets, e-Noticeboard, examination schedule, examination fee & other charges
6.	Hostel if	Amenities, download forms, handbook of hostel rules & regulations, hostel fees, e-Noticeboard/circulars & photos & gallery
7.	Library	History, aims & objectives, financial resource budget, library collection, library rules & frequently asked questions, library staff, timing, new arrivals & notice-circulars.[4]

However, the performance of each attribute is interpreted in items of the actual availability of information under a particular attribute on the schools' websites is evaluated as perceived by the end-users. As a result, a total number of seven content categories, consisting of sub-content items were finally selected about which information should always be available on Maldivian schools' websites irrespective of their status (Government schools, Semi-Government schools and private schools).

COMPARE PERFORMANCE OF MALDIVIAN SCHOOL WEBSITES

The advent of World Wide Web has greatly influenced every business in one way or the other. It has completely transformed our lives by providing access to a vast knowledge and information on every subject. The creation of school websites fully serves the purpose of educational institutions in advancing and achieving their goals. The varied information made available on these websites and the minimum transaction response time to address the queries of end-users can go a long way to influence their decision in selecting a particular course and an institution. The issue assumes greater significance, especially in a least developed country Maldives where a website development and deployment activity are primarily facing the shortage of formalized website design techniques and testing procedures.[5] Thus, an attempt was made to analyze and compare the scalability and performance of selected school websites of Maldives by means of load testing; and the results obtained are presented and discussed in a subsequent section of this part.

Table II: Throughout Statistics Representing the Scalability Behavior of Schools' Websites

School Status	Concurrent user load	Average Throughout (Bytes per seconds)	User load over Previous Run	Average Throughout over Previous Run
Central Government School	90 users	5.720,452,806	150	83.541
State Government School	90 users	4. 721,111,086	150	91.406
Private School	90 users	7.224,481,841	150	93.005
Government Funded School	90 users	3.925,584,854	150	87.339

Table: II determines the average throughout received, while this column highlights the total data received from the web server during the entire test duration. [6] However, this part of the study highlighted the results of performance testing based on load test of four schools' websites (Government, Non-Government, State funded and Private) selected through stratified random sampling technique. Simulation of realistic user's behavior is achieved through load runner, a software tool for performance testing. Of all the school websites under study, on the basis of their scalability and performance. It has been found that the websites of government schools and private schools are most and least efficient respectively.[7]

SUGGESTIONS

Monitoring and maintain the school website's performance is extremely important. Poor performance in any area can hurt school ability to convert visitors as well as its ability to collect reliable data, which is needed to adjust and improve future marketing efforts, not to mention business strategies in general. However, there are some important suggestions that can drastically improve schools' website user experience;

- Freshen the content regularly.
- Add content, information prominently with bullet points.
- Add images and/or video.
- Include well-designed and written headlines according to current standards.
- Use white space.
- Optimize your page speed.
- Use attractive calls to action.
- Use hyperlink differentiation.
- Include well-designed and written headlines.
- Keep schools' website pages consistent.

CONCLUSION

The key rationale of this study is to improve the quality of Maldivian schools' websites which can be considered as the chief predictor of perceived end-users' satisfaction. End-users' satisfaction is ephemeral in nature while its regular evaluation forms the image of quality about a particular service over a long period.

However, the findings of this study can be useful for the management, website designers and evaluators of schools' websites in Maldives, who are concerned about evaluating and improving their website quality.[8] The outcomes of this study highlight the relative importance of information posted under various content categories as perceived by different categories of end-users. The findings also indicate the satisfaction level of various categories of end-users on the availability of information under these content categories of educational institutions' websites. Thus, it is a great challenge for the educational authorities and web designers who are the stakeholders in making the information available on the educational institution's website to bridge the existing gaps between the expectations and perceptions. This study would help them to improve the quality of their websites leading to reap greater benefits.

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