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A study to increase effectiveness of distance learning websites in India with special reference to the state West Bengal to increase the present GER of higher education through incorporation of E-learning facility in a better way

Goutam Panigrahi ^{a*}, Anirban Das ^b, Kajla Basu ^c^aAssistant Professor, Department of Mathematics, National Institute of Technology, Durgapur- 713209, India^bAssistant Professor, Department of Computer Applications, Dr. B.C.Roy Engineering College, Durgapur-713206, India^cAssociate Professor, Department of Mathematics, National Institute of Technology, Durgapur- 713209, India

Abstract

E-learning, the newly introduced concept has dramatically changed the previous style of learning and made learning material within the reach of the common pupils aspiring higher education. Contextually, the websites of distance learning in India with special reference to the state West Bengal need to be radically ultra modernized in such a way so that learning materials will be available to the students and more pupils will pay attention and interest to go for this web enabled learning which will gradually enhance the Gross Enrollment Ratio (GER) of West Bengal. In our study a comparative analysis has been made among the distance learning web pages or websites of internationally reputed universities and the distance learning web pages or websites of the universities of West Bengal. Moreover the present GER of advanced countries along with West Bengal are taken. The correlation between the effectiveness of websites and GER is analyzed and necessary suggestions with comments are recommended to increase the effectiveness of the university distance learning websites in West Bengal.

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Keywords: E-learning, Distance Learning, Effectiveness, GER;

1. Introduction

In this paper we have analyzed the design elements and content of some internationally acclaimed educational websites for distance learning to benchmark the present status of educational websites for distance learning in West Bengal. Incorporation of newer design elements, contents and facilities like e-learning will increase the overall effectiveness of websites for distance learning in West Bengal and this will increase the present higher education enrollment in West Bengal by providing more service to the students aspiring higher education. The major drawbacks of the websites in West Bengal are identified in this paper and necessary suggestions were given to improve the websites' usability. If the websites provide the service in enrolling students in the higher education, providing e-learning materials and other learning resources during the entire course span then more students will be attracted to enroll in higher education through e-learning.

* Goutam Panigrahi. Tel.: +91-973-384-3985;

E-mail address: panigrahi_goutam@rediffmail.com

2. Literature Review

Palmer identified five important constructs related to website success in the year 2002. The five important characteristics are download delay, navigation/organization, interactivity, responsiveness, and information and content. On the basis of Microsoft usability guidelines, Agarwal and Venkatesh (2002) developed a procedure for the evaluation of website's usability characteristic. They identified five major categories for usability measurement: - content, ease of use, promotion, made-for-the-medium, and emotion.

Other previously made studies have shown that customers are more likely to enjoy websites that are informative, entertaining, interactive, and orderly (Eighmey 1997, Ghose and Dou 1998, Keeney 1999, Nielsen 1993, Nielsen et al. 2001).

3. Methodologies

To meet the objective we have analyzed the portions dedicated to the distance learning of some university websites in India, Australia and America which are dedicated to provide necessary information and service to the intended users and also we have identified the drawbacks of Indian websites in providing information and services to the pupils. Besides this, through a set of questionnaires we have identified the real problems of the students of India, mainly the state West Bengal. After identifying the real problems, which are affecting the GER of the state West Bengal, we have mapped it with the effectiveness of the educational websites mainly the portion which is dedicated for distance learning. We have identified the linear regression between the effectiveness of educational websites and the GER of the corresponding area after establishing the cause effect relationship between them.

We have considered the average presence of design and service related attributes of educational websites of the countries i.e. Australia, USA and India as three populations.

Table 1. Presence of attributes related to elearning of university websites of three countries

| Attributes | Australia | America | India |
|--|-----------|---------|-------|
| e-learning materials | 4 | 4 | 1 |
| online examination | 4 | 4 | 0 |
| online payment | 4 | 4 | 0 |
| computer-based training | 2 | 0 | 0 |
| web-based training | 4 | 2 | 0 |
| instructor-led training | 3 | 2 | 0 |
| online registration | 4 | 4 | 1 |
| online career counselling | 4 | 4 | 1 |
| web conferences | 4 | 3 | 0 |
| online helpdesk | 4 | 4 | 2 |
| study link to grow more | 1 | 3 | 4 |
| e forum | 4 | 2 | 0 |
| courses at per industry standard | 4 | 3 | 1 |
| Group email for learners | 4 | 4 | 2 |
| campuses in remote places to engage rural students | 0 | 0 | 0 |
| online competitions like e-debates | 1 | 0 | 0 |
| Online news to students regarding higher education | 2 | 2 | 1 |
| online career workshops | 2 | 2 | 1 |
| Intellectual Property Virtual Scholar Program | 0 | 1 | 0 |
| blended learning | 0 | 0 | 0 |
| mobile learning | 0 | 0 | 0 |
| Digital library | 0 | 1 | 2 |
| Digital Question paper access system | 0 | 0 | 1 |

Here we have assumed the effectiveness of educational websites which is directly proportional to the presence of attributes and we have presented the real problems of students after interviewing them and the solution mapping of it by increasing the effectiveness of websites and identified the linear regression between the average presence of attributes and the GER of that country.

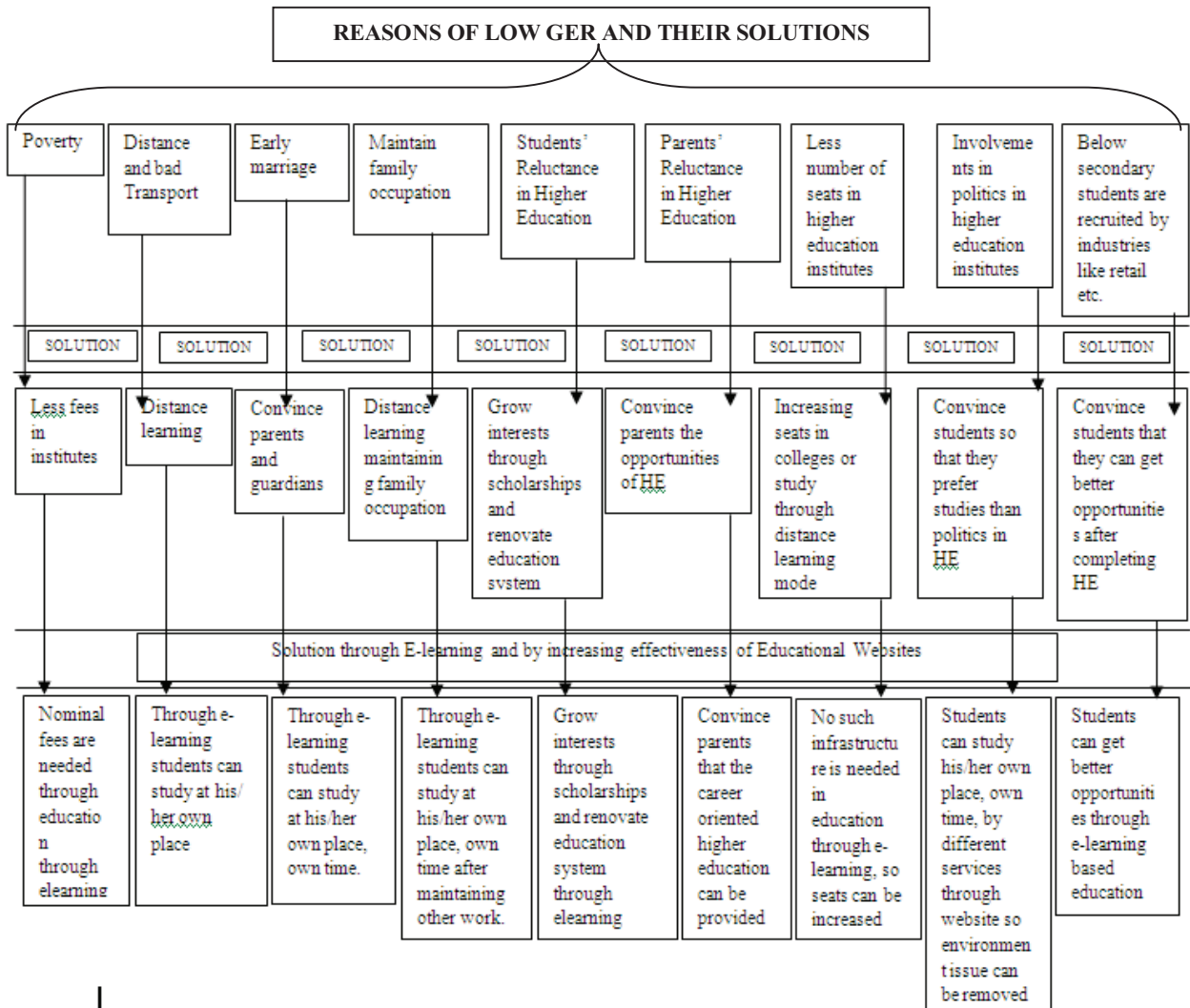


Figure 1. Reasons of low GER in India with special reference to West Bengal and its solutions

In the Table 2 first U1 to U5 represents university’s distance learning websites of Australia; second U1 to U5 represents university’s distance learning websites of America and third U1 to U5 represents university’s distance learning websites of India specially targeting the state West Bengal. The attributes 1 to 23 are the 23 attributes already specified in Table1. The presence of attributes is marked with 1 and the absence of attributes is marked with 0. The average presence of attributes of university websites of Australia is 13.6(out of 23 attributes), average presence of attributes of university websites of America is 14(out of 23 attributes) and average presence of attributes university websites of India is 4.6(out of 23 attributes). From different sources we have collected the GER in the higher education of these three countries. On the basis of the above assumed figure i.e. Figure1, we have drawn the

regression line and also the relationship between the effectiveness of distance learning websites and the GER in the higher education was established.

Table 2. Presence of design and service related attributes of educational websites (mainly the portion dedicated to distance learning)

| Properties | U1 | U2 | U3 | U4 | U5 | U1 | U2 | U3 | U4 | U5 | U1 | U2 | U3 | U4 | U5 |
|----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 11 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 18 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Average | 13.6 | 13 | 13 | 15 | 14 | 15 | 16 | 9 | 9 | 11 | 7 | 3 | 1 | 6 | 6 |

Below mentioned table x represents the average attribute present in a particular country and Y represents the GER in the higher education of the corresponding country.

Table 3. Linear regression table

| X | Y | X ² | Y ² | XY |
|------|--------|----------------|----------------|----------|
| 13.6 | 77 | 184.96 | 5929 | 1047.2 |
| 14 | 83 | 196 | 6889 | 1162 |
| 4.6 | 26.23 | 21.16 | 688.0129 | 120.658 |
| 32.2 | 186.23 | 402.12 | 13506.0129 | 2329.858 |

Now the equations obtained from above table are:

$3a + 32.2b = 186.23$ ----- equation one

$2329.858 = 32.2a + 402.12b$ -----equation two. Now the linear

regression equation is $Y = -0.794 + 5.85X$

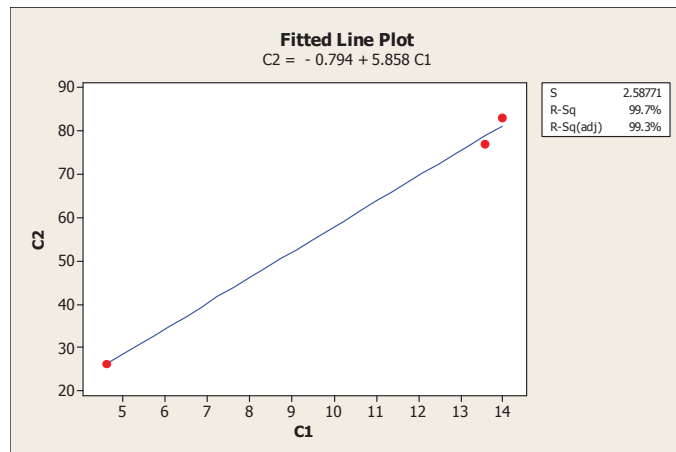


Figure 2. Regression line and points

In the above diagram C1 represents the average attribute present in the website of a particular country and C2 represents the GER in the higher education of the corresponding country.

3.1 Findings

Here we have identified the mean of the presence of properties of educational websites of Australia, USA and India with special preference to West Bengal are not same and as well as there is a high degree of correlation exist between the average presence of design and service related attributes and the corresponding GER of the country.

Conclusion: The design and service related attributes need to be increased in the educational websites in India. Through the increase of the design and service related attributes and as well as the incorporation of the E-learning facility in a better way will make students who are aspiring to the higher education closer to the academic institution . The problem of distance, poverty, early marriage and other causes can be overcome by this facility .Thus the overall GER of higher education of India with special reference to the state West Bengal can be increased.

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