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Significant Predictors of Library Use by New International Students; The Case Study of University of Malaya, Kuala Lumpur, Malaysia

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ABSTRACT

In view of the fact that Library use is indispensable for academic success, therefore this paper studies the significant factors that predict the use of Library by international students in their Universities of study. Data for the study were collected through the distribution of questionnaires to new international students in University of Malaya, Malaysia. Using ordered probit model, it was discovered that significant factors predicting the use of library by the new international students are level of study, English language proficiency, computer use skills and previous library use in home country. Also, using Chi-Square test, it was discovered that there is a significant influence between English language proficiency and computer use skills. Furthermore, it was also found that there is a significant relationship between library use at home and in the host university. 9.6% of the total international students were used in the survey and the response rate was 77.3%.

Key words: Use of library, new international students, ordered logit model, Malaysia

INTRODUCTION

The past two decades have not only seen Malaysia emerging as a new international trade powerhouse but also in other areas, particularly the establishment of closer international ties with the enticement and acceptance of international students into Malaysia. The presence of more than 40,000 international students, from many parts of the world pursuing tertiary education ranging from diploma to degrees to PhD in private schools, private higher educational institutions and public universities in Malaysia, signifies the confidence and acceptance of Malaysia as a destination for acquiring academic qualifications.

The University of Malaya is a public University and one of the over 25 Universities in Malaysia, established since 1905. In compliance with the Malaysian government's vision of 100,000 international students by 2010, the University of Malaya recently opened her doors to international undergraduate students in addition to other foreign students in the different postgraduate programmes already offered by the University. The University has currently enrolled a total of 1568 international students comprising of 320 undergraduates and 1248 postgraduate students.

One of the key components of any university or academic institution is its library. The main role of academic libraries is to make available materials and services that allow its clientele retrieve information required for instructional, educational and entertainment purposes. The clientele, on their part, are expected to make complete use of such materials and services (Omoniyi, 2002). In

her efforts to disseminate knowledge and information, the university operates a main library, which provides library facilities for the whole campus and also special libraries to meet the exact and special needs of some faculties. These branches and special libraries are situated at the faculties of Dentistry, Law, Education, Engineering, Language and Linguistics, Economics and Public Administration, Institute of Postgraduate Studies and Research and Medicine. It is generally agreed that library use is indeed indispensable for students to achieve their educational successes.

Information specialists have long sought to understand what factors are pertinent in encouraging a person to search for information. A particular focus of inquiry more recently has been on the factors that influence library use and the use of library resources in seeking information (physical or virtual) as opposed to just surfing the Internet. These investigations assume an even bigger importance going by the fact that more people are using the Internet to locate information they need, information that is most often unmediated by the library (Kibirge and De Palo, 2000).

New international students also lack the skills to effectively use Library services due to their variant educational backgrounds and previous library experiences in their countries. This is because in some countries, vital library routines are still performed manually. Previous library experience is significantly related to students' perceived importance of library knowledge with respect to the requirement to use the library. Students who used the library more frequently are more successful in locating needed information (Liu and Redfern, 1997). Therefore, library use, benefits of library use and learning outcomes are related and the library contributes to this relationship (Nagata *et al.*, 2007).

The only means of accessing electronic information services is through the use of a computer. Many of the potential users of electronic information services lack the necessary computer and electronic research skills to properly utilize the new services. A large percentage of the populations in developing countries have never even used a computer, let alone access information via the internet (Sam *et al.*, 2005). Students with higher computer literacy are more inclined to access and make use of library facilities (Tella and Mutula, 2008).

Database searching poses a lot of challenges to International students because it is found that mastering the use of synonyms, a necessity in keyword searching is a difficult skill, most especially for students who have limited English vocabulary (DiMartino and Zoe, 2000; Patton, 2002). To differentiate information from web sources is one of the most important literacy skills international students should learn (Cuiyings, 2007). This, they find very difficult because they are potentially faced with problems in language, communication and use of technology.

Previous library experience is significantly related to students' perceived importance of library knowledge with respect to the requirement to use the library (Allen, 1993). In the result of a research conducted by Allen (1993) at understanding the uniqueness of international students and their library use, the research provided an excellent picture of international students' perceptions of library use and their comfort level with library services that were new to them.

Students from other countries are used to different library services and varying degree of access to information. International students' previous library exposure is one of the very first challenges they encounter in using academic libraries in their country of study. Their exposure to an academic library at home before coming to study abroad may be very minimal due to the fact that some of

them may have come from countries where library use is not required for students (Moeckel and Presnell, 1995). Rehman and Mohammed (2001) went further to state that international students have difficulties in using libraries because libraries are either weak or non-existent in the educational system of their countries.

International students may need varying degrees to adjust to new styles of teaching, learning and evaluation, which over and over again involve a shift from teacher-centered models of teaching based on authorized texts to more self-directed research-based learning that draws on practically unlimited print and online information sources (Robertson *et al.*, 2000). All these may prove complicated and also compound the limitations in students' preceding library know-how, use of electronic resources and information literacy (DiMartino and Zoe, 2000).

The level of computing and internet skill with which students enter higher education might influence whether or not they use the electronic resources provided by the library (McGuigan, 2001). It is believed that computer attitudes not only play an influential role in determining the extent to which students use the computer as a learning tool (Teo, 2006) but also future behaviors towards the computer such as using it for further study (Huang and Liaw, 2005).

Though computers now permeate the entire world and so many students are computer literate. Jackson (2005) found out that in as much as majority of international students are familiar with computer and the Internet technology; they have less experience in accessing, retrieving and evaluating electronic library resources.

Other studies have also shown that computer use in the library still pose a special problem to students from foreign countries. The fact still remains that many countries especially, the developing countries currently do not have computers so fully integrated in their libraries (Ogunsola and Okusaga, 2006). Therefore, most students from these countries, on arrival in a foreign country for study still lack the suitable information retrieval proficiency necessary to take advantage of computerized bibliographic access systems.

International students face three major challenges in the use of the library; these are language barrier, the communication barrier and the technology barrier (Abdullah, 2000).

This study therefore tries to gain insight into the significant factors that affects the use of library by new international students through data collected from new international students in the University of Malaya, Malaysia. This study would try to answer the following question:

- What is the library experiences of new international students at the University of Malaya as a result of previous library experiences in their home countries
- What is the influence of computer use skills on their use of Library services at the University
- To gain an understanding of the problems encountered by new international students from different continental regions in using Library services at the University
- Are English language proficiency, programme of study and age significant factors affecting Library use by the new International students

MATERIALS AND METHODS

This study was conducted on new international students admitted by the University of Malaya (students who have not yet completed their first semester of study-2008 academic year). Though most new undergraduate international students surveyed may have used libraries in their home

countries, they may lack experience in the use of academic libraries and the item on their use of libraries at home in the questionnaire did not make any provision for respondents to indicate which type of library they used.

Responses were only from new international students. Responses from the university librarians as to how well new international students use the Library services were not sought, because the study focused only on the responses of new international students. Information given by the students surveyed were not verified.

A major limitation of this study is that, it did not take into account international students on exchange programmes at the University.

Modeling the use of library by international students in Malaysia: When response are ordinal and has more than two level, researchers have a choice between ordered logistic regression (ordered logit) and ordered probit models. Considering that the ordered probit is theoretically superior and can be estimated via several commercially available software packages, it was applied to the data analyzed in this study.

A model was developed to estimate significant predictors of library use by the international students.

Here respondents selected their use of library from four alternatives:

- Once in a week
- Twice in a week
- Thrice in a week
- More than thrice in a week

The following structural model is used:

$$y_i^* = \beta x_i + \varepsilon_i \quad (1)$$

Where:

y_i^* = Latent and continuous measure of use of library

x_i = A vector of observations of explanatory variables

β = A vector of parameters to be estimated and

ε_i = A random error term (assumed to be normally distributed)

The observed and ordinal response use-variable y_i^* is determined from the model as follows:

$$\begin{cases} 1 \text{ if } -\infty < y_i^* < \tau_1 \text{ (use once in a week)} \\ 2 \text{ if } \tau_1 < y_i^* < \tau_2 \text{ (use twice in a week)} \\ 3 \text{ if } \tau_2 < y_i^* < \tau_3 \text{ (use thrice in a week)} \\ 4 \text{ if } \tau_3 < y_i^* < \infty \text{ (use more than thrice in a week)} \end{cases}$$

where, τ_{1s} represents the thresholds to be estimated along with the parameter vector β .

This model can be expressed in terms of probabilities:

$$\begin{aligned}
 P(y_i^* = k) &= P(\tau_{i-1} < y_i^* \leq \tau_i) \\
 P(y_i^* = k) &= P(\tau_{i-1} < \beta x_i + \varepsilon \leq \tau_i) \\
 P(y_i^* = k) &= P(\varepsilon < \tau_i - \beta x_i) - P(\varepsilon \leq \tau_{i-1} - \beta x_i) \\
 P(y_i^* = k) &= F(\tau_i - \beta x_i) - F(\tau_{i-1} - \beta x_i)
 \end{aligned}
 \tag{2}$$

And in terms of odds:

$$\text{odds}(y_i^* = k) = \frac{P(y_i^* \leq k)}{P(y_i^* > k)}
 \tag{3}$$

$$\text{Ln}(\text{odds}(y_i^* = k)) = \tau_k - \beta x_i
 \tag{4}$$

where, i is an individual, k is a response alternative and $P(y_i^*)$ is the probability that individual i responds in manner k . This multivariate approach makes it possible to examine the joint influence of several independent variables which is not obtainable through contingency analysis.

Data for this study were collected towards the end of first semester at the University of Malaya. Questionnaires were distributed to 2007/2008 new international students at the main library, hostels and their faculties. One hundred and fifty questionnaires were distributed, one hundred and sixteen were returned, representing 77% response.

RESULTS AND DISCUSSION

Table 1 shows the frequency of library use of international students at the University of Malaya. Sixty-one (52.6%) respondents do not use the University of Malaya library regularly (<3 times daily). Fifty-four (46.6%) respondents use the library regularly (≥ 3 times daily).

Fifty respondents, 43.1% were undergraduates and sixty-six respondents representing 56.9% were postgraduate students (Table 2).

Respondents from the Asian continent, which constituted the majority (82.8%) of the total respondents surveyed, were sub-grouped and analyzed in regions while responses from students from Africa (17.2%) were analyzed as a whole (African continent). From Asia, responses were grouped into three regions of Southeastern/Southern, Eastern Asia and Western Asia:

- Southeastern/Southern Asia region; comprises the following countries-Indonesia, Laos, Singapore, Thailand, India and Srilanka
- Western Asia; Iran, Iraq, Palestine, Turkey, Oman, Yemen, Jordan
- Eastern Asia region; China and Japan

While respondents from African were analyzed as a continent because of the small number of respondents:

- Africa; comprises of the following countries; Sudan, Somalia, Zimbabwe, Egypt, Ghana and Nigeria

The sub-grouping of respondents into regions (Table 3) is also aimed at understanding each of the regions and their peculiar problems as it concerns the factors under study and the effects they have on their use of Library at the University of Malaya library.

Table 4 shows that new international students of age twenty-five and below recorded the highest percent of respondents with 56.9%, while 42.2% were respondents between the ages of twenty-six and above.

Table 5 represents respondents' library use in home country before coming to Malaysia for study. It shows that majority of the new international students have used libraries in their home countries before coming to Malaysia. However, there was no distinction between the types of library they used at home before coming to study in Malaysia.

Table 1: Respondents' frequency of UM library use

Frequency of UM library use	Frequency	Percentage
Never	8	7.8
Once a week	31	26.7
Twice a week	21	18.1
Three times a week	16	13.8
More than three times a week	38	32.8
No response	1	0.9
Total	116	100.0

Table 2: Respondents' programme of study

Programme of Study	Frequency	Percentage
Undergraduate	50	43.1
Postgraduate	66	56.9
Total	116	100.0

Table 3: Respondents' region

Region	Frequency	Percentage
Southeastern/Southern Asia	20	17.2
Eastern Asia	24	20.7
Western Asia	52	44.9
Africa	20	17.2
Total	116	100.0

Table 4: Respondents' age

Age category	Frequency	Percentage
25 and below	66	56.9
26-35	41	35.3
36 and above	8	6.9
No response	1	0.9
Total	116	100.0

Table 5: Respondents' use of library in home country

Use of library in home country	Frequency	Percentage
Yes	100	86.2
No	15	12.9
No response	1	0.9
Total	116	100.0

Table 6 shows the computer use skills of new international students. Though, some of them have not used computer in the library, a high percentage of them have used computer some time or the other in their various home countries. Ninety-one (78.4%) respondents said they have good computer use skills, twenty-five (21.6%) respondents said their computer use skills are poor.

Descriptive statistics of the key variables are shown in Table 7. Minitab was used to estimate the ordered probit model that explained the use of library by the new international students on 107 valid answers (9 respondents provided incomplete answers). The model is presented in Table 8. The lack of significance of Region is not surprising because respondents are all from developing countries that have no significant variations in Library use at home country.

From the model, it can be interpreted that significant factors affecting Library use by new international students are programme of study, English language proficiency, computer use skills and previous Library experience/use in home country. In this study, it was found that 31.7% of the postgraduate students use library at least 3 times in a week against 27.3% of the undergraduate students (Table 9). In Table 10, 85.7% of the students with an excellent level of English proficiency regularly (≥ 3 times per week) use the library against the 40% of the students with poor level of

Table 6: Respondents' computer use skills

Level of computer use skill	Frequency	Percentage
Excellent	21	18.1
Good	70	60.3
Fair	22	19.0
Poor	3	2.6
Total	116	100.0

Table 7: Descriptive statistics for key variables

Variable	Mean	SD	Minimum	Maximum
Use of library	3.08	1.03	1	4
Southeastern/Southern (yes = 1, otherwise 0)	0.18	0.38	0	1
Western Asia (yes = 1, otherwise 0)	0.41	0.49	0	1
Eastern Asia (yes = 1, otherwise 0)	0.22	0.42	0	1
Africa (yes = 1, otherwise 0)	0.19	0.39	0	1
Undergraduate (yes = 1, otherwise 0)	0.59	0.49	0	1
English proficiency (Good = 1, otherwise 0)	0.35	0.48	0	1
Influence of library use in home country (yes = 1, and 0 otherwise)	0.21	0.41	0	1
Influence of computer use skills yes = 1 and 0 otherwise	0.69	0.42	0	1
below 25 years (yes =1 and 0 otherwise)	0.56	0.50	0	1

Table 8: Model estimation results for use of EIS by international students in Malaysia

Variable	Coefficient	Standard error	Z	p> Z	Odds ratio
English proficiency	-1.0271**	0.4500	-2.28	0.022	0.36
Study level	1.0938***	0.4128	2.65	0.008	2.99
Computer use skills	-1.0714**	0.5136	-2.09	0.037	0.34
Age	0.3215	0.4042	0.80	0.426	1.38
Library use at Home country	1.0774*	0.6526	1.65	0.099	2.94
τ_1	-2.9562	0.8038	-3.68	0.000	
τ_2	0.0753	0.7498	0.10	0.920	
τ_3	2.5889	0.8633	3.00	0.000	

*, ** and *** are significant at 10, 5 and 1% level of significance respectively. Log-likelihood = -104.620; df = 5; p-value = 0.000

Table 9: Library use in UM and study level (%)

Study level	Once a week	Twice a week	Thrice a week	≥Thrice a week
Undergraduate	11.4	45.5	15.9	27.3
Postgraduate	6.4	42.9	19.1	31.7

Table 10: English language proficiency and use of library in UM (%)

English proficiency	Once a week	Twice a week	Thrice a week	≥Thrice a week
Poor	0.00	33.3	26.7	40.0
Fair	7.41	29.6	18.5	44.4
Good	12.90	22.6	9.70	54.8
Excellent	0.00	0.00	14.3	85.7

Table 11: Computer use skills and use of library in UM (%)

Computer use skills	Once a week	Twice a week	Thrice a week	≥Thrice a week
Poor	0.0	22.2	27.8	50.0
Fair	7.7	27.8	15.4	49.2
Good	14.3	23.8	14.3	47.6
Excellent	0.0	33.3	0.00	66.7

Table 12: Influence of previous library experience and use of library in UM (%)

Library use in home country	Once a week	Twice a week	Thrice a week	≥Thrice a week
Once a week	11.1	55.6	33.3	0.00
Twice a week	12.8	40.4	12.8	34.0
Thrice a week	5.3	21.1	26.3	47.4
≥Thrice a week	0.0	0.00	13.3	86.7

English proficiency that regularly use the library. In Table 11, it is clear that excellent computer users (66.7%), regularly visits the library while only (50%) of the poor computer users regularly use the Library. In Table 12, it is clear that regular library users in home country are also regular users (86.7%) when they travel overseas for study, similarly poor users of library at home do not regularly use library overseas (0.0%).

Furthermore, using the Chi-Square test, it was established in Table 13 that there is a significant dependence between library use in home country and overseas. Also there is a significant influence of previous library use and computer use skills (Table 14).

As the result of the survey, Postgraduate students are very good Library users more than the undergraduate students. This may be attributed to the fact that postgraduate studies are more research based, thus the postgraduate students are more engaged in the use of library facilities in search of materials than the undergraduates. This aspect of the findings is new to most of the known studies done on library use by international students.

It is not also surprising that English language and computer use skills are significant factors. The majorities of the world's top research information are written in English and thus are geared towards English proficient users. This is in line with the findings of Sam *et al.* (2005). Furthermore the only means of accessing electronic information services available in the library is through the use of a computer and this is in agreement with the find of DiMartino and Zoe (2000).

Furthermore, there is no question that majority of good library users in home country are also good users in Overseas where they are studying. This is because, they have been accustomed to library use as a result of frequent library use in home country.

Table 13: Library use in home country and university of Malaya

Library use variable	Usage			
	Never	Once	Twice	≥Thrice
Previous library use	12 (10.5)	49 (40.0)	21 (21.0)	33 (43.5)
Use of Library in UM library	9 (10.5)	31 (40.0)	21 (51.0)	54 (43.5)

Values in brackets are the expected frequencies; $\chi^2_{\text{calculated}} = 9.548$, p-value = 0.023, df = 3 thus p<0.05

Table 14: Influence of computer use skills and previous library use on the respondents' use of UM library services

Influence variable	Encouraged my use	Discouraged my use	No influence
Influence of previous library use	46 (66.5)	10 (8.5)	60 (41.0)
Influence of computer use skills	87 (66.5)	7 (8.5)	22 (41.0)

Values in brackets are the expected frequencies; $\chi^2_{\text{calculated}} = 9.548$, p-value = 0.000<0.05

CONCLUSION

In this study, significant factors affecting the use of Library by International students were investigated using International students in University of Malaya, Malaysia. A questionnaire was designed in view of some of the factors extracted from literature reviews. These factors were integrated into 8 questions covering country of origin, age, programme of study, levels of computer use skills and English language proficiency and their influences on the use of Library and Library experiences in home country and in Malaysia. Using ordered probit model, it was discovered that significant factors affecting the use of Library by International students are programme of study, English language proficiency, computer use skills and previous Library experience. It was also discovered that there is a significant influence of previous library use and computer use skills. Furthermore, there is a significant relationship between a student's library use in home country and Overseas.

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