User attitude survey of usage, maintenance and preservation of major palm leaf manuscripts collections in Sri Lanka

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Abstract

This paper briefly introduces the user attitudes relating to the selected palm-leaf collections in the country and the survey has conducted as a part of the main survey. The objective of the study was to identify the user attitudes regarding the usage, maintenance and preservation of palm-leafs in the 3 major collections of the country. Likert type attitude scale and 20 attitude questionnaire was distributed among the users and 75% were desponded.

Data analysis was done by using the analysis of variance (ANOVA). Based on the findings, there were no attitude differences between the three factors of the (NM) and (NA) repositories. There was a significant difference in the (UP) repository due to various physical reasons. The one factor analysis revealed that all the users were with positive attitudes of usage and maintenance. But the third factor of preservation have scored highest amount from the UP repository for the negative attitudes. Several steps were suggested to overcome the problems such as microfilming the collections, user awareness programmes for usage, applying oil treatment, provide training for personals, restrict to use fragile copies and encourage using manuscripts for research.

Keywords: Attitude survey, usage, maintenance, preservation

Introduction

Library materials or the written heritage of mankind consists of different types of cultural materials incised or written in various ways on palm-leaves to compact disks in the information world. Within these varying sources palm-leaves are in the very primitive heritage though, still in use and maintain as an invaluable source for the authentic information. Considering the authenticity and the centuries of its durability, the user attitude survey has been carried out based on three factors in relation to its usage, maintenance and preservation in three repositories such as National Museums (NM), University of Peradeniya (UP) and National Archives (NA).

The largest collection stored in the country is in National Museums which has 6000 volumes of manuscripts with many rare materials. The second largest collections is at the University of Peradeniya library and calculation

revealed as exceeding 4800 volumes of palm leaf manuscripts. Department of National Archives also has been selected, as there are about 1,000 manuscripts in the department with many old manuscripts.

Objectives of the study

The main objectives of this study were

- To identify the attitudes of users and researches about usage, maintenance and preservation of palm-leaf in the selected 3 repositories.
- Understand the variability differences between the each attitude in each repository.
- Understand the user attitudes regarding one factor within these three repositories.

Methodology

The questionnaire was assigned by using the Likert-type attitude scale and 20 attitude statements were formulated with scaled, fixed responses. These questions have multiple-choice items and respondents were asked to choose the "best" or "most appropriate" option (Busha, Harter, 1980) relating to the feeling or beliefs of the usage maintenance and preservation of the manuscripts.

Respondents

Out of 40 user attitude questionnaires 30 duly completed were returned within three month's period of time and which indicated a response rate of 75% of this study. The number of respondents by the departments and libraries are as follows.

Table 1: Respondent rate for the questionnaire in 3 repositories

Repository	Library / Department	No. of Ques. Distrib.	Resp. Rate
NM	Department of national Museums	20	15
UP	University of Peradeniya	10	08
NA	Department of National Archives	10	07
	Total	40	30

Data collection

Three-month user survey was carried out in these departments and library to determine the user attitudes regarding the usage, maintenance and preservation of palm-leaf manuscripts with other multi-varied media. This survey was based upon a self-administered questionnaire to the users who came to these departments and library within three-month period of time. Twenty questions were included in this questionnaire according to the Likert scale and all the questions were in relation to the 3 factor of this research study.

Analysis of data

User attitudes were analysed by assigning a scale value to each of the five responses. Both positive and negative 20 statements were used to measure the usage, maintenance and the preservation of manuscripts. All the positive attitudes have high scale scores and they stand: 5 = Strongly agree, 4 = Agree, 3 = Uncertain, 2 = Disagree, 1 = Strongly disagree. For the statement opposing this point of view, the items are scored in the opposite order.1 = Strongly agree, 3 = Uncertain, 2 = Agree, 4 = Disagree, 5 = Strongly disagree.

The scoring of "uncertain" is the same (namely 3) in both cases.(Oppenheim,1996). By using the Likert scaling; percentage responses were reported by combining the two outside categories: "strongly agree" and

"agree"; "disagree" and "strongly disagree". As the questionnaire consisted of 20 statements the following score, values were revealed. (Best, Kahn, 1992) 20 x 5 = 100 Most favourable response. 20 x 3 = 60 A neutral attitude. 20 x 1 = 20 Most unfavourable attitude.

Analysis of variance (ANOVA)

The user attitudes were statistically analysed by using the ANOVA and the objective is to find out the effect of certain factors on a response variable. In one way ANOVA, is used to identify the two major sources of variability: between group and within group variability. The between group variability is used to analyse the three factors of each group at a time and the within group variability is used to analyse the one factor of the three repositories at a time.

Results and Discussion

The survey revealed the attitudes of NM repository regarding the usage, maintenance and preservation of the palm-leaf manuscripts, there were no user different attitudes between these 3 factors of palm-leaf manuscripts in the NM repository. According to the table 2 percentage of the user attitude of the above three factors are in the similar condition ranging between 31% - 35% of the average value.

Table 2: Average and variance of NM repository

NM Repository	Count	Sum	Average	Variance
Usage 1	15	61.83333	4.122222 (34%)	0.557407
Maintenance 2	15	56.42857	3.761905 (31%)	0.401361
Preservation 3	15	65.14286	4.342857 (35%)	0.142274

In the UP repository, only eight users have answered to the questionnaires and there were considerable differences in this repository between the

averages of each factor. There is significant evidence to state that, all users who answered the questionnaire has not equally answered or accepted about the usage, maintenance and preservation of palm-leaves in the UP repository. This may be due to physical condition of the manuscripts, which vary, and the available preventive measures of the repository also vary according to the collection. Table 3 indicated the percentages of the values between 28% - 37% in this repository.

Table 3: Average and variance of UP repository

UP Repository	Count	Sum	Average	Variance
Usage 1	8	33.5	4.1875 (35%)	0.46379
Maintenance 2	8	26.28571	3.285714 (28%)	0.186589
Preservation 3	8	34.71429	4.339286 (37%)	0.168732

According to the table 4 in the NA repository, only 7 users have answered to the questionnaires and it is same as to the NM repository, there were no user different attitudes of the usage, maintenance and preservation of palm-leaf manuscripts in this repository. This reveled that, user group is concerned about the three factors of the attitude in the NA repository and the percentage of the user attitude of the above three factors were ranging between 30% - 36% of the average value.

Table 4: Average and variance of NA repository

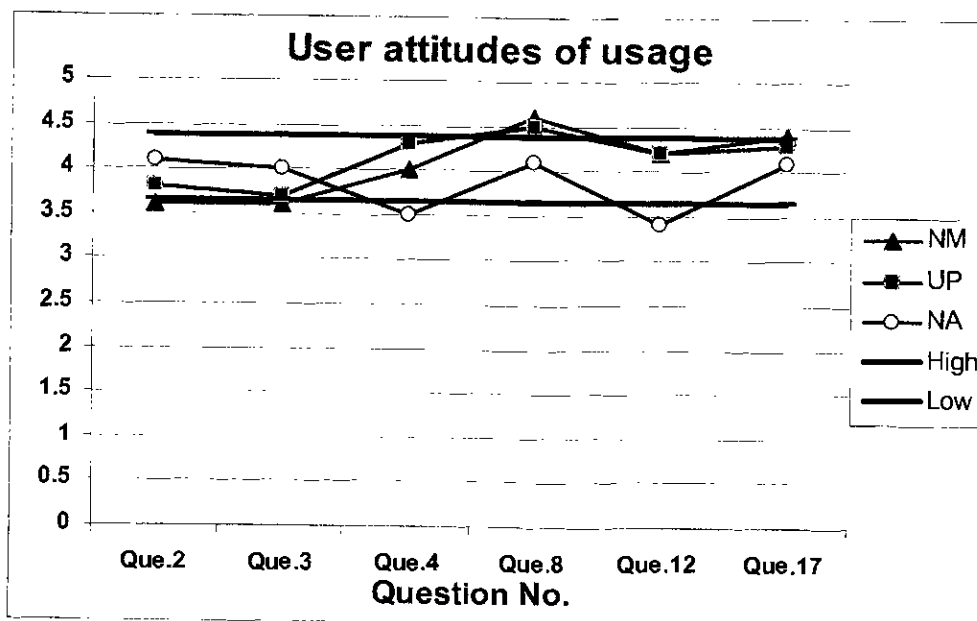| NA Repository	Count	Sum	Average	Veriance
Usage 1	7	27.33333	3.904762 (34%)	0.433862
Maintenance 2	7	24.42857	3.489796 (30%)	0.706511
Preservation 3	7	29.57143	4.22449 (36%)	0.325559

According to the above tables only UP repository has the big differences within the factors and NM and NA do not have much variations within the usage, maintenance and preservation of palm leaf manuscripts.

Next, the one factor analysis of the questionnaire was calculated within these three repositories. First, the questions relating to usage of manuscripts have taken into consideration, six questions were formulated, three of them are positive, and the rest three are negative attitudes.

Table 5: Averages of the usage of palm-leaves in three repositories

Repository	Que.2	Que.3	Que.4	Que.8	Que.12	Que.17
NM	3.6	3.6	4	4.6	4.2	4.4
UP	3.8	3.7	4.3	4.5	4.2	4.3
NA	4.1	4	3.5	4.1	3.4	4.1
High	4.390864	4.390864	4.390864	4.390864	4.390864	4.390864
Low	3.653581	3.653581	3.653581	3.653581	3.653581	3.653581

Figure 1: Attitudes of usage of palm-leaf manuscripts

As depicted in Table 5 and figure 1 the answers for the usage of the palm-leaf manuscripts were up to the medium level of the Likert scale and it means the users are with positive attitudes towards usage of palm-leaf manuscripts and rejected the negative feelings of the usage, which is indicated in question no. 2, 3 and 17 of the questionnaire. The lowest average indicated in 3.6 levels, it revealed that, they have rejected these negative attitudes of usage of palm-leaf manuscripts. The 95% confidence interval of the attitudes which indicated the highest level as 4.3 and the lowest level as 3.6 denote the true mean of the usage which fall within approximately 95 of the 100 confidence interval.

According to that, all the users in these three repositories have accepted the attitudes regarding the usage of palm-leaves. This may be due to the understanding of the importance of manuscripts in various ways for their research work. On the other hand, all might be *bona fide* users of these manuscripts.

Next, the user attitudes of maintenance of palm-leaf manuscripts in these three repositories were analyzed and in relation to that, there were 7

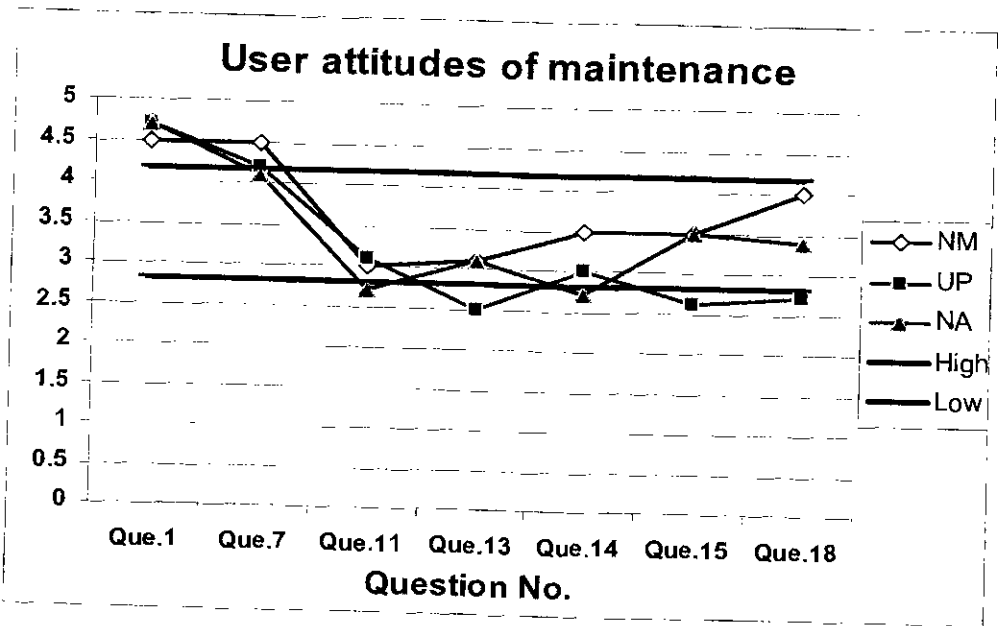| Repositories	Que.1	Que.7	Que.11	Que.13	Que.14	Que.15	Que.18
NM	4.5	4.5	3	3.1	3.5	3.5	4
UP	4.7	4.2	3.1	2.5	3	2.6	2.7
NA	4.7	4.1	2.7	3.1	2.7	3.5	3.4
High	4.161335	4.161335	4.161335	4.161335	4.161335	4.161335	4.161335
Low	2.800569	2.800569	2.800569	2.800569	2.800569	2.800569	2.800569

questions formulated and three of the items favouring the maintenance of manuscript collection while four items were opposing.

The averages of the results maintenance of palm-leaf are indicated in the table 6 with high and low confidence interval.

Table 6: Averages of the maintenance of palm-leaves in three repositories

Figure2: Attitude of maintenance of palm-leaves.

The figure 2 depicted the highest value of the attitude of maintenance average 4.7 in relation to the question 1 and the lowest as 2.5 for the 13th question. According to that, the users agree with the attitudes of maintenance of manuscripts and rejected the negative attitudes. The UP repository has marked the lowest average for the 13th question (2.5) and it revealed the inadequacy of trained personnel for the repository. The two black lines of 95% confidence interval of the attitudes, which indicated the highest level as 4.1 and the lowest level as 2.8, denote the true mean of the maintenance with probability to fall.
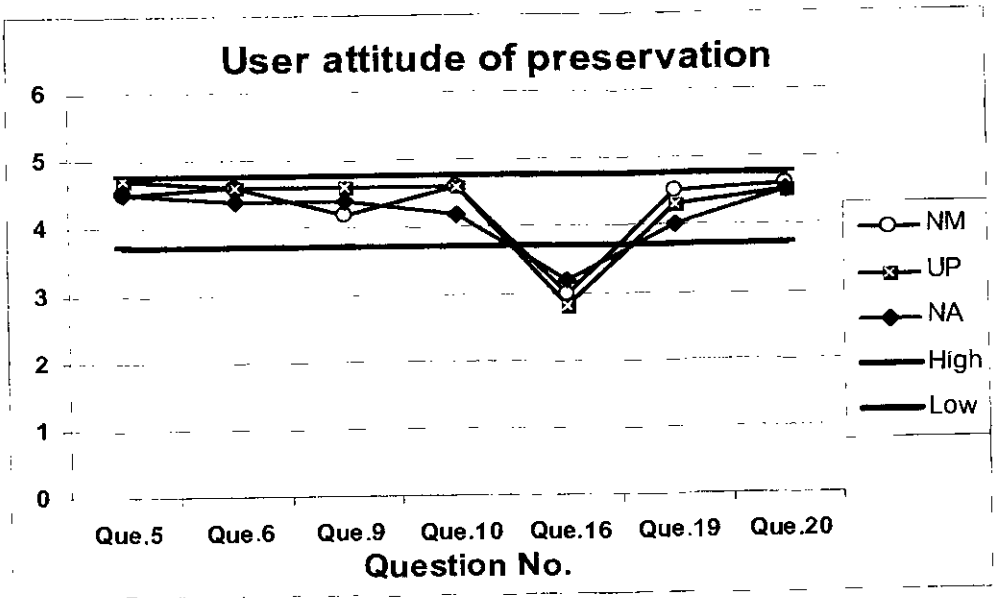
There are no user different attitudes of maintenance of palm-leaves in these three repositories. As per the users' point of view, only few questions have less marks of maintenance of palm-leaf manuscripts such as question no. 13, 15, and 18. This might be due to the maintenance problems and the lack of trained staff in these repositories.

To identify the user attitude of preservation of these three repositories, seven questions were formulated and four of them are positive and the rest three are negative attitudes. The averages of the answers pertaining to these questions are in the table 7.

Table 7: Averages of the preservation of palm-leaves in three repositories

Repositories	Que.5	Que.6	Que.9	Que.10	Que.16	Que.19	Que.20
NM	4.5	4.6	4.2	4.6	3	4.5	4.6
UP	4.7	4.6	4.6	4.6	2.8	4.3	4.5
NA	4.5	4.4	4.4	4.2	3.2	4	4.5
High	4.783264	4.783264	4.783264	4.783264	4.783264	4.783264	4.783264
Low	3.721498	3.721498	3.721498	3.721498	3.721498	3.721498	3.721498

Figure 3: Attitude of preservation of palm-leaf manuscripts

According to the figure 3, the highest average of preservation attitude was scored in the UP repository amounting to 4.7 for the negative question no.5 and highly rejected the attitude. At the same time, the lowest value also has scored in the UP repository for the question no. 16 amounting to 2.8. This negative attitude of preservation is due to "most of the manuscripts in this collection are damaged" is accepted by the users and proved in the physical survey analysis of the palm-leaf manuscripts in the UP repository, which the researcher had carried out. Other repositories also have low scores in proportion to the other question. As in the above figure 3, the two broad lines indicate the confidence interval of the attitudes as the highest level being 4.7 and the lowest level being 3.7. In the figure 3 denote the true mean of user attitudes of preservation of palm-leaves.

As in the above two points of attitudes such as usage and maintenance, the preservation attitudes has also been accepted by the users and proved that, preservation is necessary for these collections.

According to the individual attitudes analysis between groups, all the users and the researchers have accepted what the questionnaire included and no negative attitudes have been accepted by them. While the highest average indicated as 4.7 the lowest has gone to 2.5. According to these figures, the mid point of the scale had been marked and all agreed with the physical survey findings what the researcher has carried out in these repositories.

Suggestions for improvement

According to the survey following suggestions have been made for the development of the collections in each repository.

Usage of manuscripts:

- As most of the manuscripts are remained as unread it is necessary to do a research with those manuscripts.
- The researchers are unaware of the collections, it should be encouraged to use them for their research works.

- Should be able to provide copies of the manuscripts in proper way when needed to have it.
- Restrict the access and use of rare, fragile, sensitive manuscripts.

Management of Manuscripts:
- Catalogue should be maintained well with all the new acquisitions.
- Most of the readers are unaware of microfilm service and the readers should be encouraged to use more of this service.
- Need further training of handling the manuscripts carefully.

Preservation of manuscripts:
- With the training of junior staff preserving them for a long term existence is necessary.
- Need to apply chemical treatment and also make read easy by treating with traditional methods once in ten years.
- Collections should be microfilmed and readers be provided with microfilmed copies for reference.

Conclusion

Though, the between group variability has not rejected the null hypothesis, the within group variability has been rejected at one time which is in the UP repository and indicated 9% of gap between the maintenance and preservation of its palm-leaf collection due to various problems in the area of preservation and conservation of palm-leaves in this repository.

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