

Collecting Data Through Online Survey Vs Paper-based Questionnaire: An Experience in a University Setting

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ABSTRACT: Several studies using surveys on various aspects of library issues have been carried out by the author with the aim of using the findings to develop the existing scenario. Methodologies included different means of collection of data including questionnaire. This paper focuses on the use of questionnaire to collect data and compare the effectiveness of the hardcopy versus the online in a university setting in Sri Lanka and Brunei Darussalam. The author's experience in using both modes of administering the questionnaire and the concern about inadequacy of the response rate to the online survey are discussed. The article aims to highlight the usefulness of improving the practice of online survey method in the university setting and to suggest means of developing the evaluation strategy.

Keywords: Online Survey, Paper Survey, Questionnaire, Academic Community, User Survey, Survey Response, Data Collection and Response Rate

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1. Introduction

Regular evaluation of user's perception on various aspects of library operations is a necessary management technique to be used in continuous upgrading of the services of a library in any setting. User surveys have been used as a useful tool in such processes of evaluation in libraries worldwide. Especially when user needs vary from one library to another and from time to time, data gathered by conducting regular surveys on user needs and library usage patterns provides a valuable guide in decision making and determining future directions of the library development. This situation is prominent in an environment of a health related faculty setup in a university as the user expectations of the academic community is ever growing due to expansion of the massive knowledge base of health/medical information in line with the continuously emerging resources in this field. Having realized the nature of emerging trend in seeking information of health/medical professionals, several studies using surveys on various aspects of library issues in the Medical Library of University of Peradeniya have been carried out by the author over the years. Further, similar studies have been carried out by the author in the library of Universiti Brunei Darussalam during one year.

The Medical Library of University of Peradeniya, Sri Lanka caters for the two faculties of Dental Sciences and Medicine of the University of which the membership extends to other two health related faculties too namely Allied Health Sciences and Veterinary Medicine & Animal Husbandry. Its membership is nearly 2000 which include undergraduates and postgraduates of

Faculty of Dental Sciences and Faculty of Medicine; which is the academic staff of all four health related faculties mentioned above. In addition, its membership is offered to the extended faculty (consultants of peripheral teaching hospitals) of Faculty of Medicine. Further, the Medical Library provides reference facilities to health professionals of hospitals in few other provinces of the country in addition to Central province. Its collection contains books (nearly 19,000), journals (1200 titles including ceased titles) and other library materials pertaining to Dental Sciences and Medicine. The library is being extensively used specially by the undergraduates and observes library hours from 7.30 a.m. – 6.30 p.m. everyday throughout the year except for special public holidays. Services of the library include readers' services, lending and reference services, reading room facilities, OPAC (Open Public Access Catalogue), Inter-Library-Loan facility, photo copying services, literature survey, library orientation and user education.

The library of Universiti Brunei Darussalam functions as a fully automated library equipped with modern facilities and comprises of a collection of books and other materials nearing 400,000 volumes and a collection of 254 titles of journals. Its total membership of 4220 includes academic staff (majority being expatriates), postgraduates and undergraduates (includes foreign students), administrative staff and external users. Services provided by the library includes lending facilities, inquiries, reference services, inter-library-loans, Internet and on-line database services, current awareness services, ISBN services and OPAC, audio-visual aids, microform copiers, media rooms, group discussion rooms, individual study rooms and photocopying.

The focus of this article would be on eight user surveys conducted by the author. Methodologies included different means of collection of data including questionnaires. The main concentration of the article is on the use of questionnaire to collect data and it compares the difference between the hardcopy and the online survey in the university setting. The author's experience in using both modes of administering the questionnaire and the concern about inadequacy of the response rate in the online survey are discussed. The article aims to highlight the usefulness of improving the practice of online survey method in the university setting and to provide the reader with a thought to ponder in the development of the evaluation strategy.

2. Scrutiny of the Literature

Literature on user surveys reports, studies and reviews by Herson and McClure [3]; van House, Weil and McClure[9]; Herson and Altman [2], and Herson and Whitman[4] among many others. According to them, user surveys can be designed and administered in a number of ways. Studies by Dommeyer et al.[1], Salmon et al.[8] and Watt et al. [10] reveal that there are many advantages associated with the use of Information Communication Technology in approaches to evaluation. According to Watt et al.[10], 'using web-based evaluation questionnaires can bypass many of the bottlenecks in the evaluation system (e.g. data entry and administration) and move to a more "just in time" evaluation model'. Dommeyer et al.[1] reports that avoiding the need to administer surveys in class is another advantage of online survey. 'In general, online surveys are much less likely to achieve response rates as high as surveys administered on paper-despite the use of various practices to lift them' reported Nulty [5]. According to Richardson [7], 'little is known about the response rates obtained in electronic surveys, or whether different modes of administration yield similar patterns of results'

3. Overview of Surveys Conducted

Eight studies using questionnaire surveys have been carried out on various user populations of the Peradeniya Medical Library and Universiti Brunei Darussalam library with objectives of varying nature, aiming at addressing important timely issues.

Survey 1- A study on the pattern of usage of library facilities at the Medical Library, University of Peradeniya, Sri Lanka was carried out in 2004. The methodology consisted of two parts ; methodical checking on various types of library statistics, and use of a paper based questionnaire. User population was the membership of the library which consisted of undergraduate (1275), postgraduates (15) and academic staff (180). Questionnaire (18 main questions) was administered to undergraduates during their practical class or just before a lecture and was collected back at the end of the class. Questionnaire for the academic staff was sent through internal mail while it was handed over personally to postgraduate students. Respondents of last two categories were requested to send back the duly perfected questionnaire to the library. Percentages of responses received in the questionnaire are : Medical undergraduates - 51 % , Dental undergraduates- 75 % , Academic Staff - 23 % and Postgraduates - 33 % . Representativeness of the respondents in the undergraduate category is very satisfactory while that of academic staff and postgraduates is poor.

Survey 2- A study on the user needs in Sciences and Medicine in the library of Universiti Brunei Darussalam, with a view to

improving its collection of library materials was carried out in 2005. The methodology used was a hardcopy questionnaire (22 questions) and interviews. User population contained 287 undergraduates, 28 postgraduates, and 83 academic staff. The method of administering the questionnaire was as same as of Survey 1. Nevertheless, some aspects of the user communities were different in the two settings due to the difference in the nature of their fields of study. Total number of respondents was 300 while 86% of this represented undergraduates, 2% postgraduates and 12% represented academic staff. In the Faculty of Science though the number of postgraduates was 25, at the time of the survey, many of them had just left the faculty after completion of the course. Due to the very small sample number, it was difficult to reach any general conclusions regarding the user needs of postgraduates from this study. As such, the study was focused mainly on undergraduates and academic staff.

Survey 3- A study on the user needs in Sciences and Medicine in the library of Universiti Brunei Darussalam, with a view to improving its services was carried out in 2005. This study was the second part of Survey 2, therefore was very similar to Survey 2 in all aspects.

Survey 4- A study on the extent of usage of E-library, Faculty of Medicine, UoP, Sri Lanka was carried out in 2011. The Faculty of Medicine revised its curriculum of the undergraduate programme in the year 2004. Along with this change the faculty established the E-Library adjacent to the Medical Library in 2005 which provides the facility for academic community of the Faculty of Medicine only, thus, user population contained academic staff (58) and undergraduates (1171). The methodology was use of a paper based questionnaire (10 questions) which was administered to undergraduates during their practical class and was collected back at the end of the class. Questionnaires for the academic staff were sent through internal mail. The total number of questionnaires administered to two categories of user groups, medical undergraduates and medical academic staff was 886. The number of responses was 802 which is 90.5 % of the total. The percentage of respondents in the category of undergraduates (98.25%) was much higher than that of academic staff (1.75%). Thus, it indicated that the respondents in the undergraduate group well represented the population in this category while the percentage of respondents in the academic staff cannot be considered as a reasonable representation of the group.

Survey 5- A study on the utilization and appropriateness of resources, facilities and services of the Medical Library, University of Peradeniya, Sri Lanka was carried out in 2012. The main objective of the study was to examine the situation after the curriculum change that was taken place in 2005. User population contained academic staff (134) and undergraduates (1471) of the two faculties of Dental Sciences and Medicine .The methodology was the use of a paper based questionnaire (21 questions). Method of administering the questionnaire was as same as in Survey 4. Percentage of total responses to the questionnaire was 91%. Percentage of respondents in the category of undergraduates (98%) is much higher than that of academic staff (2%). Thus, the respondents in the undergraduate group well represented the population in that category while percentage of respondents in the academic staff cannot be considered as a reasonable representation of the group. In this context, it is not proper to make any conclusions based on responses of academic staff, therefore the discussion and conclusions were based only on the responses received from undergraduates.

Survey 6- A study on preferences and pattern of seeking information of academics of health related faculties of University of Peradeniya, Sri Lanka was carried out in 2013. The study population consisted of all the academics (173) of four faculties, Allied Health Sciences (FAHS), Dental Sciences (FDS), Medicine (FM) and Veterinary Medicine & Animal Sciences (FVMAS). An online survey questionnaire was used to gather data from the sample. The questionnaire consisted of nineteen main questions encompassing several subsidiary questions. Questionnaire was administered to all 173 academics by sending the survey URL through e.mail and recipients were requested to respond and submit it back online. The percentage of respondents to the questionnaire was 34% (59 out of 173). While it may not be proper to generalize the conclusions of the study to entire study population as the rate of response is not quite satisfactory, the findings of the study can be considered as evidence for the general trend of information-seeking behavior of the targeted group.

Survey 7- A study to find reasons for decrease in the usage of library books by medical undergraduates of University of Peradeniya, Sri Lanka was carried out in 2014. User population was undergraduates of Faculty of Medicine (1060). The methodology consisted of focus group discussions and interviews with students in addition to an online questionnaire. Designing the questionnaire was a difficult task as the questions to be asked seemed not clear and appropriateness to the topic was not sure. Thirty questions in the questionnaire were based on the data collected through focus group discussions and interviews thus believed to attract interest of the target group to respond. The online survey was administered through the ELearning Management System (Moodle) and students were requested to login to the survey using their login identity and to respond and submit it before the deadline (after one month of administering). Percentage of respondents was only 16.4% which is not satisfactory

enough to deduce any conclusions to be generalized to the total population, thus a proper answer to the issue in question could not be found through this study.

Survey 8- A study to investigate how the foreign undergraduates of Faculty of Medicine, University of Peradeniya, perceive library facilities/services in the University was carried out in March 2015. The user population consisted of foreign undergraduates of all five batches of Faculty of Medicine (52 foreign undergraduates; Bhutanese and Maldivians). The methodology consisted of interviews and hardcopy questionnaire. The paper based questionnaire was handed over to the population through their representatives in each batch and the respondents were requested to return the perfected questionnaire to the library. Response rate was 76% , thus could be considered as a good representation of the group.

The response rate from the academic staff which represents one of the main categories of the user population in all six surveys out of eight was not satisfactory. However, in the online survey (Survey 6) there was an improvement in the response rate from this category.

4. Comparison of Response Rate to Paper-Based Surveys Vs Online Surveys

Survey	Paper-based response rate(%)	Online response rate(%)	Mode of administration of survey
1	50	–	Classroom internal mail
2	74	–	Classroom internal mail
3	74	–	Classroom internal mail
4	90.5	–	Classroom internal mail
5	91	–	Classroom internal mail
6	–	34	URL through e.mail
7	–	16.4	LMS (Moodle)
8	76	–	Handover through messenger

Table 4.1 Response rate of total population to all eight surveys

5. Discussion

As shown in Table 4.1 response rate to online survey is much less than that of the paper-based survey. According to literature many studies revealed the same pattern. Therefore the main concern over the online survey is left with the question about the adequacy of the response rate. Low response rate would not provide the researcher with adequate evidence for validity and accountability of the survey strategy as the survey results do not depict the opinion of the population. Therefore extrapolating findings of the study to the population may not be valid. On the other hand in a paper-based survey, administration of the hardcopy questionnaire in a classroom setting involves several hardships including use of ‘lecture or practical time’. Use of internal mail to administer survey to academic staff was not successful in the university setting in Sri Lanka even though three reminders were sent in the e.mail. This was evident in Surveys 1, 4 and 5 where survey population contained academic staff as one of the categories in the study population. However it was somewhat satisfactory in the setting in Brunei Darussalam (Survey 2 and 3).

When response rate of individual categories of respondents is compared, the response rate of academic staff to survey was between 2-3% only, whereas that of undergraduates was between 97-98%. Albeit response rate of academic staff in Brunei Darussalam was 45%. It should be noted that in a classroom the survey is administered in a face-to-face setting and it may be the reason for higher response rate and it is the opposite when the survey was administered in a non-face-to-face setting using

the internal mail. Therefore in a non-face-to-face setting, an online survey would yield higher response rate (34%) as shown in survey 6 in Table 4.1. This reveals that response rate of academic staff is much improved in survey 6 when compared to that of surveys 4 and 5 (2-3%) though 34% could not be considered as large enough for a reasonable response rate.

In survey 7, the methodology consisted of focus group discussions and interviews with students of which the outcome was used to design an online questionnaire. It should be noted that despite several reminders to students in the noticeboard of Learning Management System (Moodle) and on the paper notice boards the response rate is noticeably poor. Instead of use of Moodle, online administering the questionnaire through a survey URL in an e.mail would have resulted in a higher response rate from undergraduates in this survey. No online surveys have been carried out in Brunei Darussalam by the author, nor did it find any in the literature, therefore a comparison of paper-based survey versus online survey was not possible in the setting in Brunei Darussalam. It is worth quoting here two reporting from literature; according to Pearson Assessments (2006) and Nulty (2008), 'Other emerging systems allow choice of response mode by combining multiple modes of administration and response, thereby allowing survey designers to better match the method of survey administration to the needs, abilities or preferences of respondents and avoid skewing the data'.

6. Conclusion

During the review of all eight surveys, the author's main concern is the poor response rate to surveys from academic staff. An insufficient response rate would not yield a meaningful conclusion thus objectives of carrying out a survey may not be fulfilled. Despite the negative outcome shown in the response rate to online survey, it still has its merits over the paper based survey with regard to several aspects. Physical involvement, administration, data entry, the time factor and expenditure are some of the main issues on the part of the researcher in paper-based survey. These issues could be overcome in an online survey method. It is therefore worthwhile to make collective efforts to improve effectiveness and the practice of online survey by taking measures to achieve reasonable response rate. Some of such measures include offering incentives by means of prizes or earning-point system for respondents, making it easy for the respondents to access to survey through survey URL in an e.mail, allowing ample time to respond, sending reminders in an effective manner; academic's involvement in the class reminding the students, ensuring the worthiness of the time spent on the survey and feedback being used in good effect. More importantly, study population should be conversant in using online facilities in their teaching /learning activities thereby responding to an online survey would not be a challenge and instead, it would be something familiar.

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