

3/10/011



INASP/KLISC

MONITORING AND EVALUATION OF ELECTRONIC RESOURCES IN ACADEMIC AND RESEARCH INSTITUTIONS IN KENYA SUMMARY REPORT

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ACKNOWLEDGEMENT

The preparation of this important document would not have been possible without the support, hard work and endless efforts of a large number of individuals and institutions.

1. The administration of:
 - *Aga Khan University*
 - *Egerton University*
 - *Kabarak University*
 - *International Centre of Insect Physiology and Ecology*
 - *Jomo Kenyatta University of Agriculture and Technology*
 - *University of Nairobi*
 - *United States International University*
2. International Network for the Availability of Scientific Publications (INASP): Programme for the Enhancement of Research Information (PERii)
3. Kenya Libraries and Information Services Consortium (KLISC)
4. Institute of Development Studies (IDS)
5. Project Steering Members
 - *Rosemary Otando, University of Nairobi*
 - *Trish Sheehan, INASP*
6. Contributing Members
 - *Patrick Maina - Kenya Agricultural Research Institute*
 - *Paul Manda, Tanzania - University of Dar es Salaam*
 - *Penelope Benyon, UK - IDS*

The support of all has been instrumental in facilitating the study; in particular this document is a result of the endless efforts of the different working groups:

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Lastly, we offer our regards and blessings to all of those who supported us in any respect during the completion of the project.

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ACRONYMS AND ABBREVIATIONS

AGORA - Access to Global Online Research in Agriculture

AIM - African Index Medicus

AJOL - African Journals Online

AKU - Aga Khan University

EU - Egerton University

HINARI - Health InterNetwork Access to Research Initiative

ICIPE - International Centre of Insect Physiology and Ecology

INASP - International Network for the Availability of Scientific Publications

JKUAT - Jomo Kenyatta University of Agriculture and Technology

KABU - Kabarak University

KENET - Kenya Education Network Trust

KLISC - Kenya Libraries and Information Services Consortium

MEDLINE - Medical Literature Analysis and Retrieval System Online

MEERU - Monitoring and Evaluation of Electronic Resource Usage

M&E - Monitoring and Evaluation

OARE - Online Access to Research in the Environment

PERii - Programme for the Enhancement of Research Information

UoN - University of Nairobi

USIU - United States International University

SUMMARY REPORT

EXECUTIVE SUMMARY

The revolution of Information Communication and Technology has brought a great change in the way libraries are providing services. Libraries have continued to embrace these technologies vis-à-vis Internet thus seeing the introduction of electronic resources (e-resources) to the library collection and services. With the advent of internet and subsequent emergence of e-resources, libraries have encountered a myriad of challenges ranging from: collection management; cost of the resources; marketing of these resources; and training users on how to use these resources. These are some of the challenges that saw libraries in Kenya come together in 2002 to overcome and resulting in the subsequent formation of the Kenya Libraries and Information Services Consortium (KLISC) in 2003.

Very little is known about usage, the users or factors influencing usage during the time since the introduction of e-resources in Kenya. The team members of this study, initiated as part of a joint KLISC and the INASP:PERii monitoring and evaluation capacity enhancement project in Kenya, therefore selected this area as the focus for their research project. In particular this study aimed to examine the extent of e-resource usage, the impact of marketing and training activities and the challenges encountered. The data collected will also provide a useful source for future research and analysis.

Overall findings to emerge, as detailed in the summary report and appendices, provide us with a comprehensive picture of the current situation in relation to the provision and access of e-resources in Kenya, and likely in many similarly positioned countries elsewhere. Whilst poor connectivity and lack of adequate access to computers emerge as the major barriers in maximizing usage of e-resources, it is also evident that usage is enhanced where awareness levels are high and training provided. In this case; data has suggested that the library needs to increase marketing and or improve its marketing strategies in order to reach out to all its clientele. Given the high number (66%) of trained respondents (55%) indicating training had enhanced their access and retrieval skills and with many noting a marked improvement in academic output and referencing skills, there are evident benefits to increasing investment in training. Despite the need for online resources and remote access, the need for the library as a space is still appreciated as users requested provision of more computers and also more quiet reading space, with data indicating the library as the site of choice for access, and the librarian as the most trusted source of training.

1. INTRODUCTION

The revolution of Information Communication and Technology has brought a great change in the way libraries are providing services. Libraries have continued to embrace these technologies vis-à-vis Internet thus seeing the introduction of e-resources to the library collection and services. The availability of good internet connectivity is essential in the provision of e-resources. Kenya has had internet since 1996¹ and over the years there has been great effort to improve connectivity such as the recent introduction of fiber optic cables in 2009. The need for good internet connectivity has also been supported by initiatives such as Kenya Education Network (KENET) whose aim is to enhance internet access for Kenyan Universities.²

With the advent of internet and subsequent emergence of e-resources, libraries have encountered a myriad of challenges ranging from: collection management; cost of the resources; marketing of these resources; and training users on how to use these resources, among others. These are some of the challenges that saw libraries in Kenya come together in 2002 to overcome and subsequently saw the creation of the Kenya Libraries and Information Services Consortium (KLISC) in 2003. Cost being a major challenge for sustainability of e-resources which continue to inflate every year and KLISC's main objective was therefore cost sharing and capacity building³. According to a survey carried out by Ouma⁴, KLISC has made great strides in alleviating these challenges and this has translated into better services by KLISC member libraries.

1.1 Electronic resources in Kenya

There have been a number of e-resources initiatives available for Kenyans. Some have been free and others offered at subsidized costs through support from funders. Some of the initiatives that Kenyans have been able to exploit over the years include: HINARI; OARE; AGORA; AJOL; AIM; Medline; and PERii. It is known that donor funded projects could come to an end once the donors stop funding and therefore the consortium has been a very important model for sustainability of such resources.

1.2 The study

Provision of e-resources does come with a lot of challenges. One way to identify these challenges, and also identify ways to improve these services, is through monitoring and evaluation (M&E)⁵. M&E is an important tool for decision making and also for the purpose of evaluating the impact of these resources on user population. The advent of e-resources has seen the need for libraries to re-strategize services such as training and marketing. Monitoring and evaluating the impact of such services on e-resources is therefore vital.

¹ Mutula, 2001

² Odero-Musakali and Mutula, 2007

³ Ouma, 2007

⁴ Ibid.

⁵ Rosenberg, 2008

Over the past six years KLISC in collaboration with INASP:PERii have presented three Monitoring and Evaluation of E-Resource Usage (MEERU) workshops for member institutions nationally. Though a few libraries have attempted to evaluate utilisation of e-resources based on in-house data from the reference desk and the publishers' statistics data, there has not been a single national survey conducted to measure the use of e-resources or assess factors hindering their usage. As a result very little is known about usage, the users or factors influencing usage.

This study, initiated as part of a KLISC and PERii collaborative M&E capacity enhancement project, therefore chose this area to focus on. The study aimed to evaluate the extent of e-resource usage and the impact of e-resource marketing and training activities. The survey was also designed to give users the opportunity to provide their perspectives on use of the resources and the challenges they have encountered. The survey aimed at answering the following questions:

- *What is the extent of usage of e-resources?*
- *What is the impact of training on the usage of e-resources?*
- *What is the impact of marketing on the usage of e-resources?*
- *What challenges do users encounter when using e-resources?*

1.3 Methodology

The study used a mixed method design to evaluate the access and use of e-resources at academic and research libraries in Kenya. Open ended and structured questionnaires were used together with an interview schedule and observation for both qualitative and quantitative data. Seven KLISC member institutions, listed in Table 1, were selected for this survey carried out between November 2010 and February 2011. Purposive/convenience sampling was adapted to select respondents for the online questionnaire and interviews respectively.

Table 1: Institutions that participated in the study

NAME	ABBREVIATION
Aga Khan University	AKU
Egerton University	EU
Kabarak University	KABU
International Centre of Insect Physiology and Ecology	ICIPE
Jomo Kenyatta University of Agriculture and Technology	JKUAT
University of Nairobi	UoN
United States International University	USIU

The survey was designed using the online survey tool, Survey Monkey, selected during the initial project meeting. Data was collected and analyzed using the same tool. Findings were presented in bar graphs, tables and pie charts for easy interpretation.

This report summarises findings resulting from the online and in person survey undertaken and the following appendices are provided:

- Appendix 1 Full report*
- Appendix 2 Online survey questionnaire*
- Appendix 3 Quotes and comments from service users*
- Appendix 4 Institutional visits: interview questionnaires*
- Appendix 5 Summary of interviews and observations*
- Appendix 6 Photographs of the peer review and visits*

2. FINDINGS FROM THE STUDY

This section of the report summarises the key findings from this study in relation to the identified objectives – additional findings can be found in the appendices section.

2.1 Demographics

Tables 2 and 3 provide a breakdown of participants from each of the participating institutions:

Table 2: Number of participants by institution responding to the online survey

Name	Sample size
AKU	59
EU	164
KABU	108
ICIPE	28
JKUAT	124
UoN	214
TOTAL	697

Table 3: Number of participants by institution and category interviewed during group visits

Institution	Administrator	Library Administrator	Library Staff	Teaching Staff	Students	TOTAL
AKU	1	1	2	1	7	12
EU	1	1	3	10	10	25
KU	1	1	4	1	15	22
ICIPE	1	1	3	1	3	9
JKUAT	1	1	3	3	10	18
UoN	0	1	3	1	7	12
USIU	1	1	3	1	7	13
TOTAL	6	7	21	18	59	111

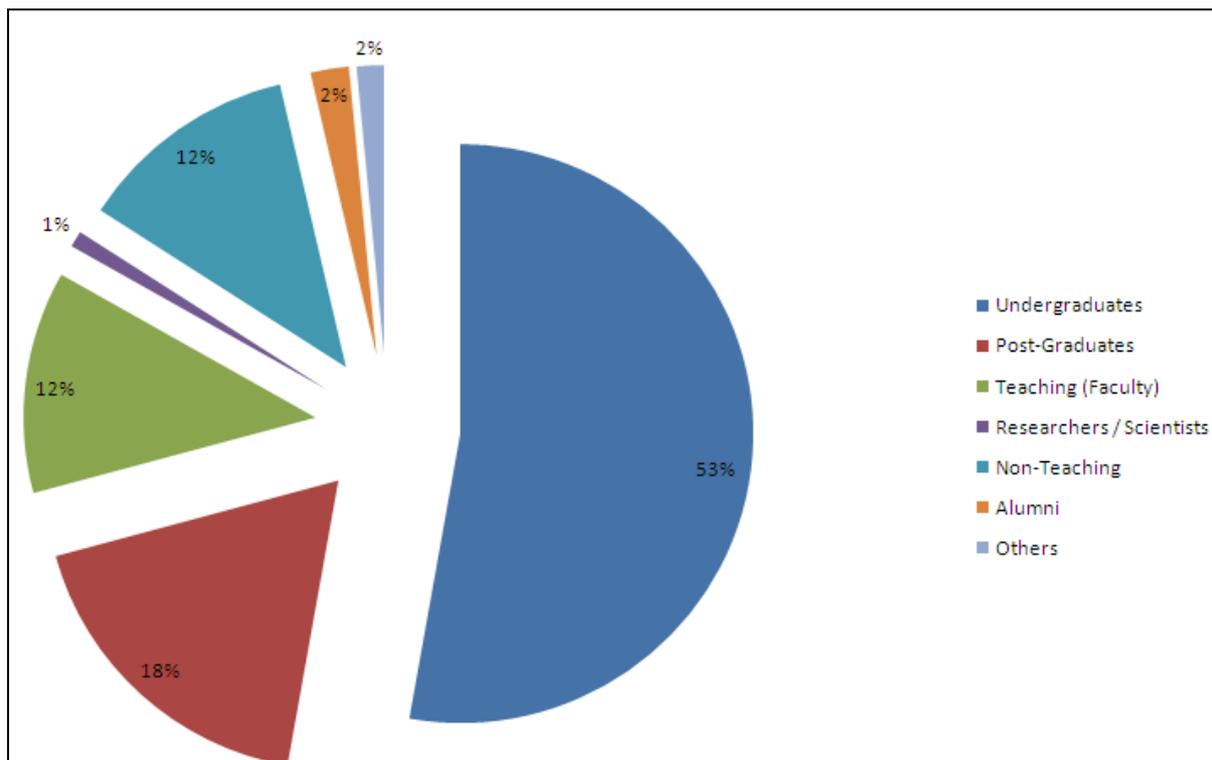


Figure 1: Response rate by category

The data indicated the majority of respondents were under-graduate students; probably because they form the majority population or they are easily available on campus as compared to the other category groups. Majority of the e-resources are accessed on campus and that could explain why the least respondents were alumni and researchers who might visit the institutions irregularly and rarely.

2.2 Findings on the extent of usage

The respondents were asked to choose their favorite resources from a choice of print and non print resources. Across the 6 institutions, print materials appeared to be very popular. These could be attributed to the problems highlighted later in the report with regard to access, facilities and skills. Further investigation on electronic journals (e-journals) usage indicated that 84% respondents have used them. However respondents identified a number of barriers to usage of e-resources. As illustrated in Figure 2 there were 6 common reasons highlighted for not using e-resources, with almost half of those responding noting the limitations of poor connectivity and lack of computers.

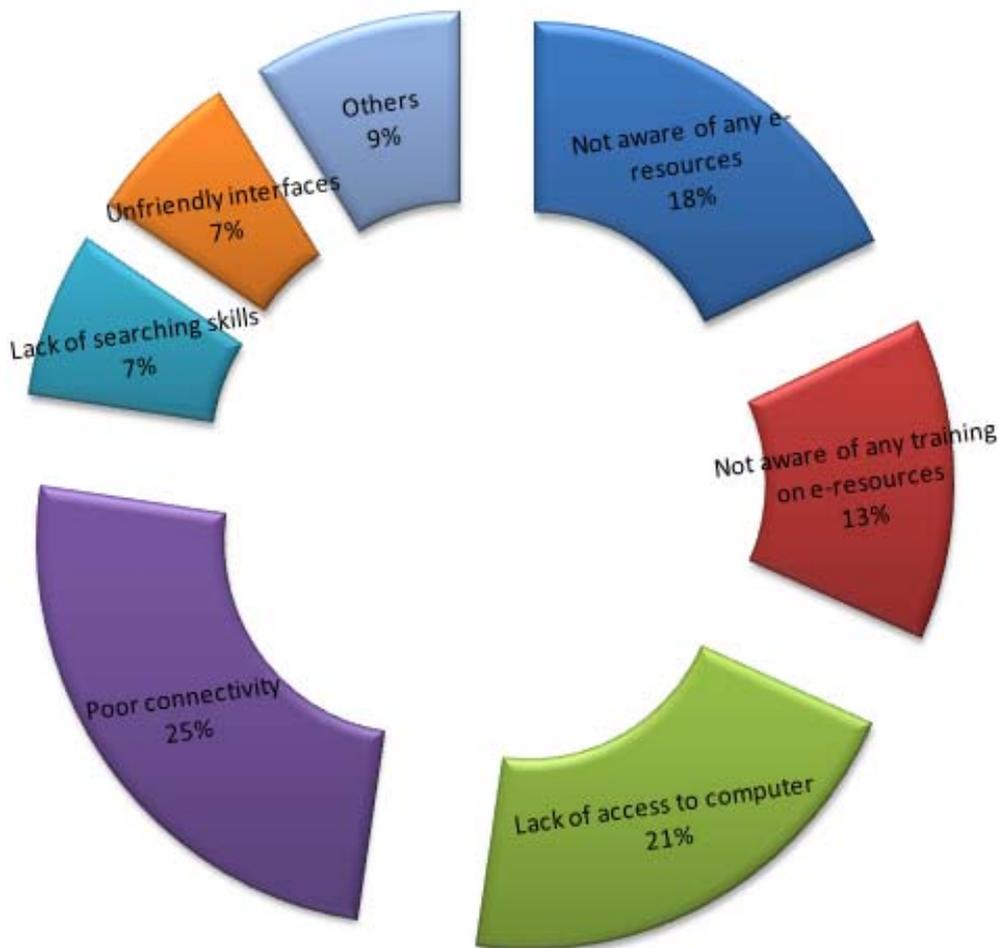


Figure 2: Common barriers to usage of e-resources

Although not analyzed to establish correlation in this study, from the feedback collected it is apparent that the level of institutional support invested in the library and the level of ICT services available varies considerably across the respondent institutions.

Responses raise a number of questions for consideration by administration and policy makers:

Does the data mean that institutions and especially the libraries need to do more to promote the use of e-resources?

The survey revealed that even though some usage is recorded, the majority of respondents were not aware of the e-resources offered at their institution, suggesting that more work is required to adequately promote the available resources.

Does the data mean that improved infrastructure, access and connectivity will increase the use of online resources and if so, how?

From the data, it appears that lack of access to computer workstations and poor connectivity are the most common hindrances to usage of e-resources (21% and 25% respectively). These barriers can be assumed to have had a significant, negative impact on

the utilization of e-resources and it is not surprising that print books were popular (*more than 70% in 5 of the 6 institutions*). Provision and use of e-resources requires ICT infrastructure which includes steady and reliable internet connectivity and computer terminals; which in this case were not put in place. It can be deduced therefore that improved infrastructure would lead to an increase in the access and usage of e-resources.

Evidently infrastructure is a major barrier to access and usage of e-resources. Institutions are therefore urged to quickly address these challenges by increasing the number of work stations per user as well as ensuring adequate bandwidth capacity. Consideration should be given to bandwidth management as a short term measure so that traffic to e-resources is given preference. Libraries could also explore the idea of thin clients to enhance their number of computer workstations; thin clients, also known by others as *N-Computing* eradicate the need for desktops relying on only one terminal as the server while the others as the clients. The initial investment might be high but potentially has a higher return on investment in the long run.

Findings on choice of e-resources

Oxford, JSTOR, Cambridge and Emerald recorded the highest usage (*17%, 13%, 14% and 17% respectively*), while more specialized databases were the least used and in some of the institutions had never been used.

Does the data mean there should be enhanced focus on promoting generic databases?

Based on this data an interesting but not surprising trend can be identified, with the least used databases and or publishers being specialized databases. Whilst we could therefore conclude that most users, at the level of respondents participating in this study, are more interested in the generic (*multi-disciplinary*) than specialized databases further contextual investigation is required to determine the true significance of this data. For example each institution would first need to explore the importance of these specialized databases for their respective institution and on research output.

Challenges experienced in accessing e-resources

There were various significant challenges highlighted by the users. In summary, the major issues highlighted by the respondents are, poor internet speeds or connectivity (37%), inadequate facilities (computer workstations) (33%), lack of awareness (26%), poor and or inadequate searching skills (17%), power surges and off-campus access.

2.3 Findings on how training impacts on usage of e-resources

The researcher sought to know if the respondents have ever been trained on use of e-resources. Searching skills are vital for effective use to be registered; 55% indicated they had received training, while 73% of those who had not been trained cited lack of awareness as the prime reason as to why they have never attended any training programmes.

The other reasons given for not being trained included; *lack of trained personnel or already familiar with use of e-resources*. The majority of trained respondents (66%) noted that training had enhanced their access and retrieval skills, enabling them to do it with much ease. 45%

indicated that as a result of trainings their academic output has greatly improved. E-resources training also facilitated better referencing skills according to 42% of respondents.

Comments from respondents included the following:

“Improved my ability to network with professional colleagues”

“Able to assist users”

“Led to efficiency in my work performance”

A holistic training programme depends on other factors such as content, searching skills, citation and referencing, facilitation, facilities and schedules. Interestingly enough, the respondents were more concerned with availability of facilities when asked what areas they would want improved or initiated than even the content or schedules – a 52% response attest to this. The other concern was the levels of searching skills – 47% indicated the need for such skills to be imparted.

Again these responses raise questions for consideration by administration and policy makers:

Does the data demonstrate that training impacts on the usage of e-resources?

If so, should the library focus on raising awareness and provision of formalized training sessions?

The data suggests ‘yes’. The analysis showed that training does positively impact on usage and performance, indicating a need for regular trainings to be introduced. If possible to have information literacy entrenched in the curriculum. The respondents showed confidence in the librarians’ training; indicating the value in librarians investing more effort towards this end. During interviews with the respondents, students showed keen interest in attending the next scheduled training session.

It is clear that training activities must form part and parcel of the library services in order to make it more effective as opposed to the reactive approaches taken by most libraries. The report indicates lack of awareness and inadequate information literacy skills among a number of students. There is a need for information literacy policies in our institutions to ensure that users acquire information literacy abilities.

2.4 Findings on how marketing affects usage

Some respondents indicated that they were hearing of the e-resources for the first time. Others had learned from colleagues; from the library web portal/web site; during orientation; from library notices through seminars; by word of mouth; and from university Open days and exhibitions. They had been asked to suggest ways on how we can improve the marketing of e- resources and a significant number of respondents were concerned about the poor marketing (awareness) aspect; while others believed the answer lies in the provision of more training sessions.

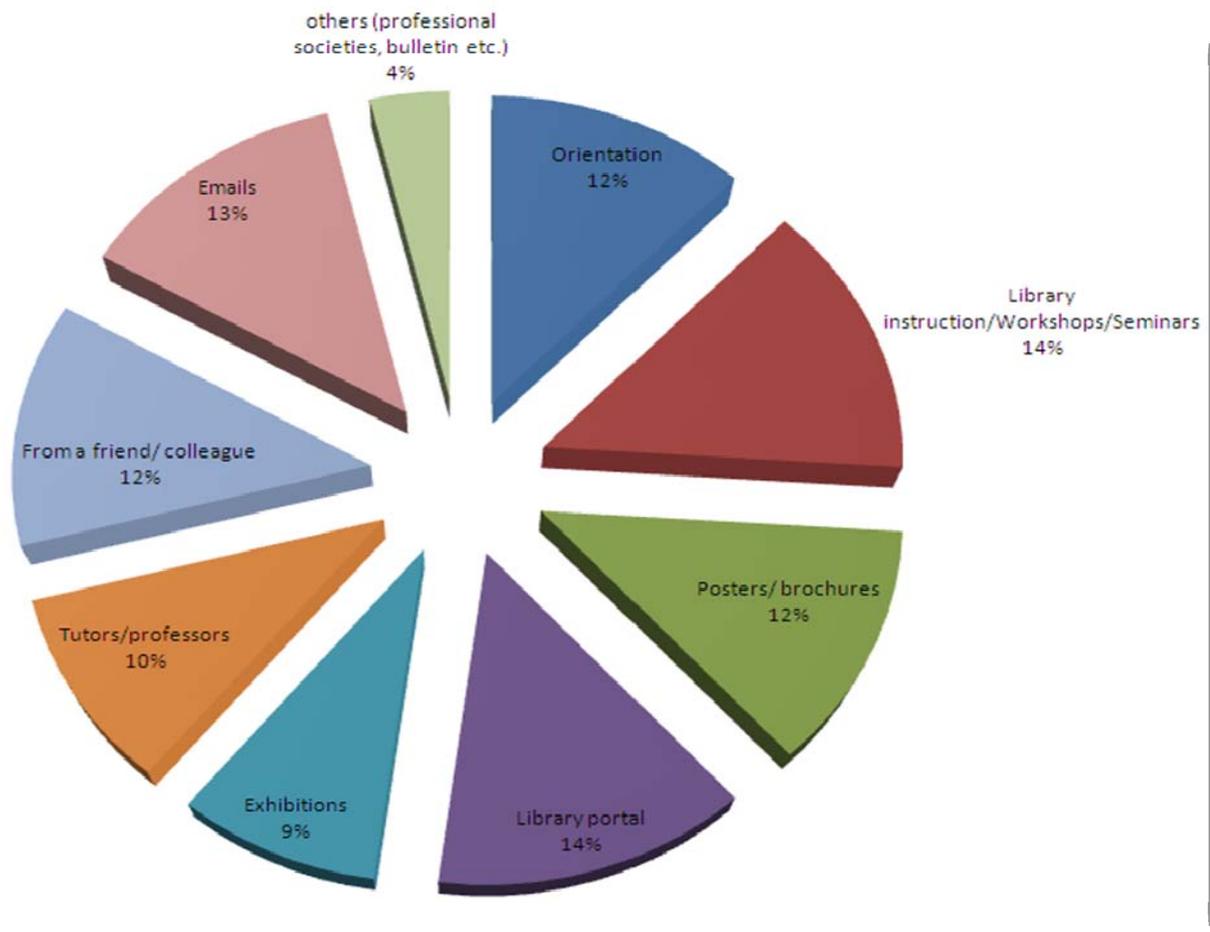


Figure 3: Marketing strategies / tools

Respondents acknowledged the need for increased promotion of e-resources as evident from the number of responses (26%). They suggested various ways to improve marketing such as the involvement of all stakeholders, introducing online advertising, and liaising with ICT departments for the provision of access points.

Does this mean that libraries must put in place appropriate marketing and promotion strategies early enough to enhance use of e-resources?

Data suggests this is the case. Of the respondents who had not received any training, 73% gave lack of awareness as the principle reason why they have never attended the trainings. Through top management the library should be fully supported in marketing the resources to the students and faculty so as to create awareness of available resources. Libraries should therefore put more emphasis on their marketing and promotional activities; for instance exploring new ways of training such as online tutorials, flash presentations embedded on their web portals and YouTube® videos.

3. TEAM AND PROJECT PARTICIPATION EXPERIENCE

3.1 Meetings and communication

Apart from the outcomes of the study, the experience of working as a team was exciting. Through the meetings and various communications we exchanged ideas and consequently created a healthy network on professional issues. The institutional visits gave us fresh ideas on how we can improve our existing services and workplaces.

The project provided most of us with the experience of not only designing online surveys, having only been respondents in past surveys, but also collection and analysis of data and how to ensure surveys are completed. Some libraries did not have an effective mailing list for staff; they relied on ICT to circulate emails to all and were not very effective. In addition most staff had not activated their official emails, which incidentally is the most reliable way of reaching them. Moreover the students do not have a mailing list. Institutions should take this as a major priority to facilitate better communication.

3.2 Teamwork and collaborations

Having two teams, formed at the initial group meeting, proved to be a worthwhile strategy. Teams were assigned members based on the proximity of the members' institutions and the reduced number of visits ensured it was practical and not too time intensive thus contributing to the success of the visits. There was a lot of support from library staff and administrators and this showed the appreciation for such activities. M&E should be embraced by all libraries and we hope his project will set the pace.

The collaborative aspect of the project created a strong bond in the team, in the end we felt empowered and excited at each stage of success since we accomplished tasks by ourselves with a sponsors input provided only as requested or required to facilitate implementation. Results from this activity will be used for decision making and to guide the library in designing information literacy program for their clientele. It will also set precedence for other librarians to make M&E a part of their day-to-day tasks rather than a one-off affair.

3.3 Timelines and scheduling

It is recommended that scheduled timelines be outlined from the onset of the project; the interview schedule was not done on this project and as survey collection commenced in November might have impacted negatively on the study. The majority of students were away on industrial attachment and only a few departments were able to participate. The survey would have yielded more responses if this had not been the case.

3.4 The survey

Response rate was low which could have been disheartening. However, this encouraged us to explore solutions and incentives. We used the opportunity to introduce and take the users through new resources. By the end of the conversation the questionnaire was almost complete. It was evident many were not aware of the resources and indeed many subsequently booked for e-resources training!

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusion

This report will surely make a big difference now and onwards on the library's monitoring and evaluation programme. It is the first comprehensive report on usage and access undertaken since libraries started subscribing for e-resources via PERii almost a decade ago.

Whilst connectivity and access to computers are significant and necessary to maximise usage of e-resources, it is also evident that usage is enhanced where awareness levels are high. In this case; data has suggested that the library needs to do more marketing and/or improve its marketing strategies so as to be able to reach out to all its clientele.

The study has shown that training programmes currently in place may not be adequate. Orientation sessions provided at the beginning of the semester may not be enough and a number of respondents suggest the need for regular and formal trainings.

Despite the need for online resources, the need for the library as a space is still appreciated as users requested provision of more computers and also more quiet reading space, the data affirms with 21% picking the library as the site of choice for access; and the librarian as the most trusted source of training.

4.2 Recommendations

In view of this, the following recommendations are suggested for a more efficient utilisation of e-resources:

- Design effective and regular scheduled marketing and promotion strategies, aimed at increasing awareness levels by working with all stakeholders to maximise the usage of these resources.
- Design and implement a structured Information literacy programme that targets various user groups and that can be integrated into the university curriculum.
- Strategy, if not currently in place, developed and adopted aimed at upgrading and increasing the existing infrastructure (computer terminals, bandwidth capacity and skilled staff) to enhance connectivity. Increasing the number of computer terminals in library and departments to facilitate access to e-resources is strongly recommended.
- Concerted effort to be made towards developing and or adopting a federated search application that will enhance searching from the novice to expert.
- Introduce a sustainable system of M&E so as to make this a day-to-day task rather than a one-off activity. Regular M&E to be conducted in order to establish the effectiveness of the e-resources provision and other library services in meeting user needs and satisfaction.

REFERENCES

- Mutula, Stephen M. "The IT environment in Kenya: implications for libraries in public universities." *Library Hi Tech* 19, no. 2 (2001): 155-166.
- Odero-Musakali, Damaris, and Stephen M. Mutula. "Internet adoption and assimilation in Kenyan university libraries." *Library Review* 56, no. 6 (2007): 464-475.
- Ouma, Symphrose. "Management of E-Resources in University Libraries: Challenges and Opportunities for Consortium Movement in Kenya." In *Transborder Library Forum 2007*, 178-185. Tempe, Arizona, 2007.
- Rosenberg, Diana. *Evaluating electronic resource programmes and provision : case studies from Africa and Asia*. Oxford: International Network for the Availability of Scientific Publications, 2008.

APPENDICES (available separately):

- Appendix 1 Full report
- Appendix 2 Online survey questionnaire
- Appendix 3 Quotes and comments from service users
- Appendix 4 Institutional visits: interview questionnaires
- Appendix 5 Summary of interviews and observations
- Appendix 6 Photographs of the peer review and visits

FURTHER INFORMATION

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Each of the participating institutions prepared an individual institutional report. Further information from this can be obtained by contacting the relevant institutional representative.

Information on KLISC is available from <http://klisc.org/index.php>