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**EFFECT OF ADEQUACY OF INFORMATION RESOURCES ON USER SATISFACTION AT PWANI UNIVERSITY LIBRARY**

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## EFFECT OF ADEQUACY OF INFORMATION RESOURCES ON USER SATISFACTION AT PWANI UNIVERSITY LIBRARY

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### ABSTRACT

*This study aimed at investigating the Effect of adequacy of information resources on user satisfaction at Pwani University library. The research design employed in this study was mixed methods. The key informants for the study were the library staff. The population of this study comprised of lecturers and students of Pwani University. This study used both probability and non-probability sampling techniques namely stratified sampling, simple random sampling, purposive as well as convenience sampling. The study sample comprised of 265 study participants. Data was collected using questionnaires and interview schedule. Data was analyzed descriptively using Statistical Package Social Sciences version 22 and presented in the form of tables and graphs. Qualitative data was analyzed and presented thematically. The study findings indicated that adequacy of information resources on user satisfaction at Pwani University library had positive effect on user satisfaction. Using regression analysis, the coefficient of determination, the  $R^2$ , was 0.400 indicating a 40% of variance attributed to effect of services offered and user satisfaction at Pwani University Library. The study therefore concluded that library should always focus on user satisfaction, have all essential services under respective sections and departments, understand the need of its users and measure their level of satisfaction and have quality and adequate information materials both in print and soft. The study further concluded that libraries should always provide strategies and way forward to improve its services at all time and make sure that the users are satisfied. The study recommended the following that Library should develop an information marketing strategy to create awareness about library resources and services among students and research scholars, Infrastructure resources should be enhanced for proper utilization of e-resources and services in the library, that management of Pwani University library should seek audience with the academic staff on what the library should provide and that Pwani University library management should organize in-house training for staff to further improve the quality of their services*

**Key terms:** Acquisition of Information Materials, Information Materials, Library User Satisfaction

## INTRODUCTION

Quality service is a competitive necessity for businesses and service organizations. Assessing service quality is therefore the first step in retaining users in today's competitive environment. When library users can choose from a variety of alternative channels of information delivery, many of which are more convenient and can compete on cost, libraries need to re-examine the range and quality of services they provide and develop systems for consultation and cooperation with their user needs and user expectations to the highest degree. Simmonds and Andaleeb (2005) stated several factors that can influence users' satisfaction; these factors include responsiveness, competence and assurances, tangibles and resources.

Academic libraries should strive to survive and grow their user base focusing on meeting their users' expectations. Jayasundara (2008) in his paper notes that user perceptions and expectation studies have become one of the most popular studies in the area of service quality in many academic libraries. The user expectations and satisfaction has been used to determine the service quality which is seen as critical for service organizations to position themselves strongly in a competitive environment. Maceviciute, Borg, Kuzminiene and Konrad (2014) reviewed literature and surveyed focus groups indicating that key determinant for library service quality were: electronic resources, collections of printed publications, technical facilities, library environment and human side of user service.

Information is vital to the overall development of man. Libraries generally are established to cater for the information needs of people in the community. Libraries acquire and organize both printed and electronic information for accessibility and use of its clientele. Oyegade, Nasarawa and Mokogwu (2003) posited that libraries are the people's university, the local gate-way to knowledge providing opportunity for life-long learning, independent decision making and cultural development of the individual and social

groups. The university library is an important core element within the setup of institutions of higher learning. It is perceived as the heart of the universities' efforts in achieving their academic mandate in learning, teaching and research (Ogbuiyi and Okpe, 2013).

Majid Anwar and Esienchitz (2001) applied a questionnaire survey to investigate all possible factors that had great impact on library performances. The results showed that collections, equipment and physical facilities were viewed as most important issues. Simmonds and Andaleeb (2005) argued that providing quality services in academic libraries is now a major issue among academic librarians; they see the library more in terms of the provision of and access to service quality than as just a physical place. Technology and automation have also changed the way people perceive libraries. As a result, the roles of libraries and librarians themselves have been re-evaluating their role as reflected in many literatures. They emphasize the provision of good library service as more important to the users than the mere physical library building. The authors stressed that access to information provided by libraries is seen as more important than the materials physically available in a library.

Pwani University is a public university in the Kilifi County in Kenya, located 60 km north of Mombasa in the resort town of Kilifi, within the larger Kilifi County. Prior to the award of a charter, the university was a constituent college of Kenyatta University. The college, formerly the Kilifi Institute of Agriculture, was established on 23 August 2007 by an order signed by H.E President Mwai Kibaki. The university is positioned close to the Kilifi bay along the Mombasa-Malindi highway. It occupies approximately 239 hectares of land, giving room for future expansion. Pwani University was founded on 23 August 2007. The first group of around 200 students was registered on 20 October 2007, mainly in the

field of Education (Science) and Education (Arts) (Pwani University Website).

The university has 7 schools namely: School of Education, School of Humanities and Social Sciences, school of Pure and Applied Sciences, School of Agricultural and Agribusiness Studies, School of Environmental and Earth Sciences, School of Graduate Studies and School of Health Sciences. Pwani University has collaboration with research institutions in Kenya and around the world. These include: Kenya Agricultural Research Institution, Kenya Medical Research Institute, National Council for Science and Technology, Florida State University and University of Dortmund among others (Pwani University Website).

Pwani University Library has a history of collection building and sharing collection materials with the broader scholarly community since inception in 1987 as Kilifi institute of Agriculture. The library plays an integral part in the achievement of the University's mission and vision. The vision of the university is "To be a world-class university in social-economic and technological advancement"; while its Mission is "To generate, disseminate and apply knowledge while sustaining excellence in teaching, learning and research". Pwani University Library plays a central role in teaching, learning, research, and community service activities of the University; and its mandate is to acquire, organize, and preserve materials in all formats and provide instruction in their use (Pwani University Website).

Pwani University modern library can accommodate over 1500 sitting capacity, the library is well equipped with printing press facilities, digital lab, full wi-fi coverage and also subscribes to a number of worldwide electronic sources, which give access to thousands of e-journals, e-books, Open access, Maps, Open Courseware and other Intranet Services. The main objective of PU Library is to ensure that users get the right information and also have access to various information materials available both print and electronic, so as to enable them achieve their goals. It

is committed to supporting both students and staff in achieving the Mission and Vision of the University, through provision of efficient and effective quality information services. The vision of the library is to be a world class University library in providing information services advancing research, education and innovation. Its mission statement is to provide the highest level of service in responding to the information needs of Pwani University Community and beyond (Pwani University Website).

Currently the library has about 51,000 volumes of books comprising of about 18,000 book titles, subscribed and access to thousands of refereed e-journals through Kenya Library and Information Services Consortium. This collection is organized using the Library of Congress Classification Scheme and the Anglo, American Cataloguing Rules. The library also has two laptops and one projector for information literacy training. It is fully networked, and has 24 hours' Internet connectivity through structured and wireless connections. It is connected to the Campus wide LAN and users can access the library OPAC from offices or computer labs. PU Library is installed with CCTV and motion detectors for the security of the information materials and other equipment in the library.

Operations are automated using KOHA Library management system. Cataloguing and Circulation services are automated, and users can access the library databases through the Online Public Access Catalog. The library has adequate furniture and equipment for convenient use by all clients. Services offered in the library include; circulation services, reference services and referral services, Internet services, periodicals and special collection services, archives and audio visual services photocopying and printing services and bindery services (Pwani University Website).

The provision of library services in Kenyan public universities is characterized by inadequate resources in terms of funds, information materials, equipment and staff (Kavulya, 2003). Private university libraries

experience these problems albeit to a lesser degree (Ouda, 2015). Although there is widespread opinion among students, lecturers as well as university administrators that university libraries play a critical role in the teaching, research, and learning activities, there is also awareness that university libraries in Kenya, especially those in public universities are not effectively providing services which has limited their role in research and learning in the university (Kavulya, 2003).

Ouda (2015) found out that expansion of universities coupled with the rapidly increasing number of students, puts pressure on the need for efficient, effective and timely delivery of library services. The expansion of the population together with the diversified programmes characterized by little improvement of the infrastructure and increased staffing results in many challenges. Some of these challenges include an increase in the number of users, competition in accessing the few current available information materials and the lack of adequate funds to acquire more resources.

It has been established that the performance of a university library is dependent on various factors such as funding, acquisition of information materials policies, accessibility to information sources, university management among many other factors (Ameen, 2000; Tong, 2003; Walters, 2013) that ultimately have a role in the perception of how good the universities libraries are in meeting user needs. There are complaints from users about the quality and quantity of materials available, finding numbers of materials in the catalogue cabinet but the book may not be found on the shelf, not ventilated, entrance areas and library location unsuitable for learning (Evans, 2005).

The quality of information resources have influence on the use of library services. The quality of a library's information resources has been identified as one of the yardsticks for measuring the library users' satisfaction of library services. Maigari (2005) describes poor library services as a problem in Kenya,

which he attributes to lack of quality information sources. Kolo (2004) reinforced this view when he revealed that library services in Nigeria have been of poor quality, which he attributed to acute shortage of quality information resources for an effective academic and other educational activities in the country.

Universities in Kenya have tried to implement a number of strategies to improve on service delivery in their libraries. For example, employing latest digital technology in library operations, regular training of library staff to improve their skills as well as to keep them abreast of the latest technological advancement in the area, having information literacy programs like library open days and exhibitions to show case library services to the users. However, there is minimal research that has been conducted to assess if these strategies have an impact on user satisfaction in the library (Kavulya, 2003).

Library users' frustration, low patronage of university library information resources are some of the factors that affect information service delivery and as a consequent user satisfaction (Phiri, 2006). In Pwani university, the university management have made several efforts to upgrade and equip the library with ICT services, computers, digital library, provision of current books and other reference materials. to improve the level of user satisfaction. The library staffs have been on the forefront to assist the library users whenever they needed help, carry out orientation programmes as well as library open day. However, a significant number of library users in Pwani university still complain of dissatisfaction with the current status of the library services. The question arising from these is; how can university libraries' information resources yield satisfaction to library users? Based on the above premise therefore, this study seeks to investigate the effect of provision of information services on user satisfaction at Pwani University Library.

## RELATED LITERATURE

### Theoretical Framework

#### Value Expectancy Theory

This research will be guided by the value expectancy theory (VET) that was proposed by Martin Fishbein in 1970 after refining the gratification theory (Watkinson, Dwyer and Nielsen, 2005). The theory postulates that behavior is a function of the expectancies that an individual has and the value of the goal towards which they are working to fulfill. The theory states that when a particular behavior is exhibited and chosen, then it has the largest combination of expected success and value. In this case when library users exhibit library usage behavior, they do so with the expectations of value they will get from its usage and the culminating success thereafter. The value expectancy theory posits that individuals are goal oriented and that goal is the aim that makes them pick up a particular behavior. This behavior is premised on the beliefs, and the beliefs are a function of the behaviours they exhibit with the purpose of achieving a certain outcome. The feeling of gratification in the outcome of achieving a specific need through indulgence in a particular behavior is the manifestation of the users' satisfaction with library services, hence the provision of library services impacts on the users utilization of library services (Watkinson, Dwyer and Nielsen, 2005). This can be perceived in the context of the psychological, social and academic needs of users who utilize library services to meet their objectives in academics, entertainment and social value. When users feel that they have got value from the use of the library, then there is a positive outcome in the feeling of being gratified and hence user satisfaction is realized. If the value is not commensurate with their expectations before they use the services, then dissatisfaction is realized.

#### Assimilation-Contrast Theory

The study will be guided by assimilation-contrast theory. Assimilation-contrast theory was introduced by Anderson (2003) in the context of post-exposure

product/service performance based on Sherif & Hovland's (2001 as cited by Anderson, 2003) discussion of assimilation and contrast effect. Assimilation-contrast theory suggests that if performance is within a user's latitude (range) of acceptance, even though it may fall short of expectation, the discrepancy will be disregarded – assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection, contrast will prevail and the difference will be exaggerated, the produce/service deemed unacceptable. The assimilation-contrast theory has been proposed as yet another way to explain the relationships among the variables in the disconfirmation model. This theory is a combination of both the assimilation and the contrast theories. This paradigm posits that satisfaction is a function of the magnitude of the discrepancy between expected and perceived performance. As with assimilation theory, the consumers will tend to assimilate or adjust differences in perceptions about product performance to bring it in line with prior expectations but only if the discrepancy is relatively small.

Assimilation-contrast theory illustrates that both the assimilation and the contrast theory paradigms have applicability in the study of user satisfaction. Particularly for this study, assimilation-Contrast theory suggests that if the performance of the library is within the users' range of acceptance, even though it may fall short of expectation the discrepancy will be disregarded. However, if the library performance falls within the latitude of rejection no matter how close to expectation, contrast will prevail and the difference will be exaggerated, the services will be deemed unacceptable by the users.

### CONCEPTUAL FRAMEWORK



**Independent Variable    Dependent Variable**

**Figure 1: Conceptual Framework**

### **Adequacy of information materials**

The library's mission is to collect and preserve information materials that meet the user needs. The mission statement of a library informs and guides the process of acquiring information materials and how the funding will be achieved. Many universities allocate funds for their libraries to procure information materials and preserve them in good states so as to meet both current and future needs of users. However, such funding has been noted to be inadequate and many libraries usually fail to stock enough information materials due to shortage of funding Wanyenda (2013).

The ever increasing rising cost of university education and students populations is creating a more and more selective would-be students for this institutions with indirect implications to university funding of libraries (Simmonds and Andaleeb, 2005). They state that a student's decision to enroll in a particular university is influenced by the costs and facilities available. Students are partly influenced to enroll at a given institution due to library services. Funding for libraries may be factored in the total fee charged on a student but in many cases it is still not adequate to cover the acquisition of all the information materials relevant for a given subject.

Funding for acquisition for information materials is also done by charging a fee for some articles or information materials on short loans. Many universities use the inter-library loan services to acquire information materials for their users (Bristol University Library, 2016). Inter-library service is used by libraries to source for information which they do not have but can be obtained from another library. Almost all formats of information materials can be obtained through this service such as printed materials, electronic materials and online access to e-sources of information (Bristol University Library, 2016).

The participation of the lecturers in the identification and selection of information resources to be procured

for the university library is paramount. In the university library, information resources selected and acquired are meant to cater for the support of the curriculum, which means the input of the teaching staff is usually required in selecting appropriate materials for teaching and learning in most university libraries. The library committee made up of university librarian, members of management, lecturers representing different faculties can select information resources for different disciplines offered in the university and also a representative from the student union government (Nkhoma-Wamunza, 2003).

Lecturers' involvement in library resources decisions is not only a norm but essential in the purchase decisions leading to acquisition of information resources. The university academic staffs' opinion of a library collection is the aggregate of the individual views, attitudes, and beliefs about the extent to which the library has met the demands of the curriculum. The development of a university library collection is a cooperative effort between librarians and teaching staff. Olanlokun and Adekanye (2005) noted that a deficient collection can have an adverse effect on the institution. Lecturers' opinion as a process of evaluating collection development will assist in identifying areas of strength and weaknesses in the collection so that gaps and inadequacies was filled in this study.

However, the proliferation of new technologies opens a number of challenges for libraries in higher institutions of learning. A major area of concern to libraries includes the problem of inadequate ICT infrastructural facilities, low bandwidth and Internet downtime (Adekele and Olorunsola, 2009). Kamba (2011) also noted that ICT is not very well spread and utilized in African institutions of higher learning, mainly because of poor communication network, limited access to ICT hardware and software and government's ineptitude to provide adequate funds to run the libraries. Inadequacy of competent staff, lack of theoretical knowledge, lack of computer culture, lack of knowledge on the importance of ICT,

inadequate funds among other factors have been site by several authors (Siddike et al., 2011; Moropa, 2010; Okojie, 2010) as impediments for ICT adoption in academic libraries.

In one of his many papers, Swanson (2000) stated that libraries are not designed-at least not in the sense that one might design a computer or a factory, rather; they have evolved in response to certain problem situations and have been shaped by countless, relatively independent, individual decisions. Several authors (Hellen, 2007 and Makori, 2009) have indicated that academic libraries are currently operating in a new technological environment and that they need to adapt to it. Otike (2004) adds that one of the major challenges that libraries and the library profession will face in the new millennium is how to cope with electronic and paperless literature however, academic libraries in Kenya need to integrate technological solutions into mainstream information products and services.

Odero-Musakali and Mutula (2007) stated that the future of universities greatly hinges on their ability to embrace and leverage the potentials of these emerging technologies at all levels of their business activities and strategies. Academic libraries have no choice but utilize ICT in their functions as Omoniwa (2001) hypothesized that in the twenty-first century, globalization of information and the adoption of information technology will be the hallmark of great libraries. If libraries are to function effectively in the present age, the manual processes or methods will have to give way to information and communication technologies (ICT) and a computer driven environment.

While new technologies have added value to library services by presenting new modes of collecting, storing, retrieving and providing information, they have also brought new challenges and aggravated some of the challenges that faced libraries before (Emmanuel and Sife, 2008). Ghuloum and Ahmed (2011) have indicated that several factors such as financial factors, technological factors, human factors

and cultural factors may be a barrier in ensuring utilization of ICTs. These have included such factors as a lack of sufficient funds to support the purchase of the technology, lack of qualified library professionals, lack of motivation and need among librarians to adopt ICT in their daily operations (Ani et al, 2005; Starr, 2006).

Academic libraries just like other departments in institutions of higher learning require sufficient funds in order to acquire modern ICT facilities such as computers, servers, scanners, photocopiers, software as well as buy/subscribe to online/offline resources such as e-journals, e-books and digital books among other resources. Amutabi (2009) pointed out that with the dwindling financial donor support situation it is unlikely that things will improve much. Kamba (2011) pointed out that libraries which became fully automated in the 1990s but could not afford to migrate, find their current software very limiting and unless one could afford to migrate onto new and updated systems, the early start could be a disadvantage. He adds that the fully automated libraries are those that either started late with donor assistance or have secured funds to migrate to up-to-date systems.

Inadequate technological infrastructure to support the integration of ICTs in the library functions has been cited by several authors as one of the major challenge that academic libraries face. Kamba (2011) noted that ICT is not very well spread and utilized in African institutions of higher learning, mainly because of poor communication network, limited access to ICT hardware and software. This refers to issues as poor or lack of ICT policy, low Internet connectivity, inadequate supply of electricity, and inadequate number of PCs. Despite the poor students computer ratio, Kamba (2011) added that there is a serious neglect of ICT resources acquired over a period of years, which need upgrading or are out of usage and this increases the complexity of managing the ICT resources. The study of Chisenga on the application of ICT in libraries, found that, although most librarians

had Internet connectivity, almost none were offering web-based information services to their users. Telecommunication services are the root cause of these problems in terms of, low bandwidth, technical faults and other network configuration problem. Frequent power outage has also been identified by several authors (Siddike et al., 2011) as an impediment towards ICT adoption and utilization.

The organization culture, library leadership and trained library personnel play a pivotal role in determining the role and status of academic libraries. Several authors (Emmanuel and Sife, 2008) have identified that lack of trained personnel and negative attitude of university management on IT as major factors that impede effective adoption of ICT in university libraries. Kamba (2011) acknowledges the existence of crunch trained and experienced technical personnel who manage, control, and maintain available ICT resources in academic libraries.

Emanuel and Sife (2008) add that many libraries have inadequate qualified ICT personnel with most traditional librarians having low ICT skills and sometimes have technology phobia. Lack of trained personnel and negative attitude of university management on IT are important factors that also militate against effective adoption of ICT in university libraries (Ani et al, 2005). Without adequate supply of appropriately trained and skilled personnel, the ability to provide quality information services may be inhibited.

Socio-cultural aspects like cultural values, regional priorities, institutional relations, political dynamics, and educational background influence the perception of potential user groups, and therefore have an impact on the adoption and use of the technology (Hagenaars, 2007). Amutabi (2009) stated that the lack of computer culture in public universities impedes rapid diffusion of the new technologies. He adds that many university officials started their careers in the age of typewriter, before the wide-scale introduction of computer technology at

universities and find it very hard to fathom many things in ICT.

In their study, Gould and Gomez (2010) found out that in most countries, libraries are still being regarded as a place to study or store books thus many users doubt whether it is a 'cool' place to go, and whether it responds to their needs, such as providing current information. Many people still think that computers can only be found in cyber cafes and computer labs but not inside libraries. There is need for library management and library personnel to change this notion in order to encourage more users to visit the library and utilize ICT resources.

## **RESEARCH METHODOLOGY**

A research design is a plan indicating how the problem of the study will be solved (Orodho and Kombo, 2003). According to Cooper and Schindler (2011), research design is a plan that guides the time scope and gives a practical guideline for the activities that should be implemented in the research process to (or "intending to") answer the research question. Further, the research design gives a clear direction on how to select the various sources and types of information required and defines the relationship between the variables of the study.

The research design employed in this study was mixed methods. Mixed methods involved both qualitative and quantitative research designs. These designs were most appropriate because they allow the researcher to collect data using both close-ended and open ended questions. According to Mugenda and Mugenda (2003) qualitative research involves designs, techniques and measures that do not produce discrete numerical data while quantitative research involves designs, techniques and measures that produce discrete numerical or quantifiable data. The size of the target population for the study included 2560 regular library users. Ten percent of the target population was considered as a sample size for the study. Thus, the desired sample size comprised of 265 respondents. The study used

regression analysis to determine the relation between the independent variable and the dependent variable. The regression equation was

$$Y = \beta_0 + \beta_1 X_1 + \epsilon.$$

Where Y = User satisfaction (dependent variable)

$\beta_0$  = Constant of Regression

$\beta$  = The Beta coefficients for the corresponding X (independent) terms, representing the net effect the variable has on the dependent variable, as X's in the equation remain constant.

$X_1$  = Adequacy of information materials

$\epsilon$  = Error of term

## RESEARCH FINDINGS

### Adequacy of the information resources at Pwani University library

The study sought to find out the adequacy of information resources at Pwani University Library. Respondents were requested to indicate their level of agreement to the statements defining the adequacy of information resources at Pwani University Library in a likert scale. The range was 'strongly disagree (1)' to 'strongly agree' (5). The scores of strongly disagree and disagree have been taken to represent a variable which had a mean score of 0 to 2.5 on the continuous likert scale. The scores of 'neutral' have been taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous and the score of both strongly agree and agree have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous.

**Table 1: Adequacy of the information resources**

	N	Minimum	Maximum	Mean	Std. Deviation
There is availability of quality and relevant information materials at Pwani university library	191	2	5	3.94	.860
The library has competent and knowledgeable staff	191	2	5	4.00	.733
I am satisfied with the extent of library collection in terms of copies	191	2	5	3.80	.778
The provision and access to information materials is timely	191	2	5	3.84	.838
Loan duration of the information materials is satisfactory	191	2	5	3.71	.766
Both print and non-print information materials can easily be accessed by users	191	2	5	4.71	.635
The library has adequate space for all its services	191	2	5	4.56	.783
Valid N (listwise)	191				

Table 1 indicated that respondents agreed to all the statements above with a mean of 4.08. This implied that respondents agree that there was availability of quality and relevant information materials at Pwani university library, the library had competent and knowledgeable staff, that they were satisfied with the extent of library collection in terms of copies, that the provision and access to information materials is timely and that the loan duration of the information materials was satisfactory. Respondents further agreed that both print and non-print information

materials can easily be accessed by users and that the library has adequate space for all its services. The statements above was a clear indication that the respondents re satisfied with the adequacy of information materials in the library in terms of quality and quantity. The study was in concurs with Andaleeb &Simmonds, (2005) who states that the library user tends to have an increased sense of satisfaction when the responsiveness of the library personnel is of high competence and of good interpersonal relations. Contextually for academic libraries, library users are

expected to be knowledgeable and competent in handling of their clients issues.

**Regression Analysis**

**Coefficient of Determination**

In Table 2 below showed regression model calculated at 95% level of significance. Coefficient of determination explains the extent to which changes in the dependent variable (user satisfaction) can be explained by the change in the independent variables

(services offered, degree of user satisfaction, adequacy of the information and improve user satisfaction). From the findings this the R<sup>2</sup> is 0.400 indicating a 40% of variance was attributed to combination of the four independent factors investigated in this study that is, services offered, degree of user satisfaction, adequacy of the information and improve user satisfaction while the 60% is explained by other factors affecting user satisfaction in a library not studied in this research.

**Table 2: Coefficient of Determination**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632 <sup>a</sup>	.400	.387	.37213

a. Predictors: (Constant), improve user satisfaction, services offered, adequacy of the information, degree of user satisfaction

**Analysis of Variance (ANOVA)**

The study used ANOVA to establish the significance of the regression model. Statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model has a P-value of 0.00 which is less than 0.05. This indicated that the regression model was statistically significant in predicting the effects of provision of information services on user satisfaction at Pwani University Library. The ANOVA results indicated that

the model was significant at F = 30.940, with p<.05. At 95% confidence level the analysis indicated high reliability of the results obtained thus indicating that the study was statistically determined.

**Regression Analysis**

The researcher conducted a regression analysis as shown in table below to determine the relationship between provision of library services and user satisfaction at Pwani University library.

**Table 3: Multiple regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.819	.309		2.647	.009
	Adequacy of the information	.340	.065	.373	5.275	.000

a. Dependent Variable: user satisfaction

Regression analysis was conducted to determine the relation between the independent variable and the dependent variable. The regression equation was  $Y = \beta_0 + \beta_1 X_1 + \epsilon$ .  
Where Y = User satisfaction (dependent variable)

$\beta_0$  = Constant of Regression  
 $\beta$  = The Beta coefficients for the corresponding X (independent) terms, representing the net effect the variable has on the dependent variable, as X's in the equation remain constant.

$X_1$  = adequacy of the information

$\epsilon$  = Error of term

Therefore the regression equation will be

$$0.819Y = \beta_0 + 0.340X_3 + \epsilon.$$

This also indicates that taking all factors constant at zero user satisfaction will be at value of  $\alpha$ : 0.819. The findings show that taking all independent variables at zero, a unit increase on adequacy of the information materials in the library will give a value of 0.340 increases on user satisfaction. The study showed that there was a positive and significant relationship between adequacy of the information materials in the library and user satisfaction with significant value of (0.000) which is  $<0.005$ .

### CONCLUSIONS AND RECOMMENDATIONS

From the summary of findings, the study concluded that the library should always focus on user satisfaction while offering information services to the users. Libraries should have all essential services under respective sections and departments to meet the needs of a user. The library should understand the need of its users and measure their level of satisfaction in order to provide custom made services. Availability of quality and adequate information materials both in print and soft should be given priority in order to meet users demand. The library should always provide strategies and way forward to improve its services at all time and make sure that the users are satisfied.

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### Recommendations

Library should develop an information marketing strategy to create awareness about library resources and services among students and research scholars. This will help better utilization of library resources and services offered in the library. Users preferred medium of information is printed books. It is observed that there is no sufficient number of copies of book and lack of latest edition is prevalent. Therefore latest edition texts should be added to the collection regularly. Infrastructure resources should be enhanced for proper utilization of e-resources and services in the library. The management of the Pwani University library should ensure that users have input in what the library would stock.

### Suggestion for further research

The study sought to investigate the effect of adequacy of information services on the user satisfaction at Pwani University Library. The study was carried out at Pwani University and further research work can be done on other public university libraries, private university libraries and special libraries. The researcher looked at only four specifics including service offer, degree of satisfaction, adequacy of information materials and strategies to improve services. Further specifics can be used to come up with new research questions besides one used in this study.

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