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# User expectation verses user perception of service quality in University libraries: a case study

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## ABSTRACT

The library as one of the main service organizations in any University the assessment of service quality through user perspectives is very important. It provides a prompt feedback for libraries to assess and improve their services to users. The aim of this research was to measure the desired service expectations and actual service performance of the users of the University of Colombo Library System. As the initial step, 116 different service quality attributes were identified from previous studies done all around the world. Of these 35 attributes which are most appropriate to the Sri Lankan University Libraries were selected by an expert panel evaluation. The selected attributes were incorporated with the SERVQUAL model and a robust instrument was developed to ascertain the views of library users about service levels. This study was conducted during period of May -June 2008 as a user survey in the University of Colombo library system covering the main library and its two branch libraries, Science Faculty Library and the Medical Faculty Library. A total of 614 questionnaires were received indicating 74% overall response rate. Gap analysis was used to determine the service quality gap between desired service expectations and actual service performance. The most important area expected by users was relevance of information received followed by access to electronic journals and adequate lighting in reading areas. The highest performance area was accuracy of information received followed by feel safe and secure in the library and relevance of information received. Access to online journals showed the largest gap between user expectation and performances. The findings of this study give a good insight to improve user satisfaction providing a better service in identified areas.

## Keywords

*Service Quality, Gap Analysis, User Expectation, User Perception, User Satisfaction, SERVQUAL.*

## 1. INTRODUCTION

The concept of “Quality” has emerged and remained as a dominant theme in management thinking since the 1940s. While the initial approaches emerged from American theorists and practitioners, early commercial applications were predominantly amongst Japanese companies. More recently organizations throughout the world have begun to embrace the theories and practices of quality. The quality of tangible products is usually easy to check and easy to define. It is more complex, when talking about service

quality. It begins with the design and is present through the whole process of delivery and performance, with assessment during the delivery process. The measurement of service quality is difficult, due to the minute differences in customers' ways of perceptions and expectations.

An Academic Library is a part of a University which delivers products personally to the customers. The primary purpose of it is to support teaching, learning, research and other academic programs of its parent organization. In a manufacturing concern, the customer is remote where as in a service organization like a University Library, service producers and consumers meet face to face. Here the customer is not an outsider, but part of the academic community. As this study concerns libraries, the "customer" will be referred to as the "user" as several other authors have used, when referring to the customer in library settings (Poll, 2003; Cullen and Calvert, 1995; Sayo, 2006).

Most traditional measures of academic Library quality such as collection size are considered to be of secondary importance, since they represent such a different approach to managing the library. Service quality has become an increasingly popular topic both in library literature and at professional gatherings (Nitecki, 1996). Service quality has been defined in different ways in different contexts. The concept of service quality that is used for library evaluation in the words of Calvert (2001) is "...to examine the difference between a customer's expectations and the customer's perceived sense to actual performance" (p.732). The most pervasive definition of quality currently in use is the extent to which a product or service meets and or exceeds a customer's expectations (Parasumann *et al.*, 1985). As described by Wisniewski and Wisniewski (2005) "The SERVQUAL instrument was specifically designed to measure service quality using both the gap concept and service quality dimensions, and was designed to be transportable, with minor adaptation, to organizations in any service sector" (p.220). According to Cullen (2001), the modification of SERVQUAL model was introduced to academic libraries by Hernon and Altman. They used the data collected from surveys and focus groups to refine the SERVQUAL model in order to develop a robust survey instrument for use specifically in library and information services.

Calvert and Hernon (1997) also state that "most typically, service quality is defined in terms of reducing the gap between user expectations and actual service provided" (p.408). There is ambiguity regarding the concepts of service quality and satisfaction. However Hernon (2002) concludes that,

"...service quality focuses on the interaction between customers and service providers, and the gap or difference between expectations about service provision and perception about how the service was actually provided. Satisfaction, on the other hand, does not involve gap analysis" (p. 225).

In their article "surveying Service Quality within University Libraries" Calvert and Hernon (1997) describe various measures that librarians can utilize to measure the actual level of services provided thus allowing them to compare user expectations measured by the survey with the level of actual service rendered by library staff. The authors recommend supplementing the survey with focus groups that probe user expectations further by gaining more detailed insights into the perceptions of a particular constituent group. They also suggested using focus groups to probe the reactions of library staff to the survey results and to help develop new ways to satisfy user expectations (Calvert and Hernon, 1997).

According to Filiz (2007), satisfaction is an important measure of service quality in libraries. Students' perceptions about libraries seem to have been largely ignored by library management in developing

countries. The assessment of service quality provides an important feedback for libraries to assess and improve their service to users. As Filiz (2007) states that,

“the survival of a library very much depends on the benefits it brings to users. Its existence will be in question when users begin looking for alternatives to library services. One way to show value is by providing quality service. It is therefore important for the library to be aware of changing user expectations, and to continually strive to provide quality service to its users” (p.9).

Altman and Herson, (1996, cited in Rowena, 2001) introduced the idea of “user satisfaction” to higher education libraries. According to them service quality in higher education libraries is usually associated with the question of user satisfaction, which in turn, is based on user perceptions of service quality. The relationship between service quality and customer satisfaction is a complex one. Service quality is defined as a component of user satisfaction. Elliot (1995), as cited by Rowena (2001), also uses this term and defines user satisfaction as the emotional reaction to a specific transaction or service encounter. He points out that satisfaction may or may not be directly related to the performance of the library on a specific occasion. Customers can receive an answer to a query but be dissatisfied because of an upsetting or angry encounter. Conversely, although the query might remain unanswered, another customer might feel satisfied because the encounter was pleasant, and the helper was interested and polite.

The importance of quality assessment of the higher education sector including university libraries is now being discussed widely in Sri Lanka. Hence the results obtained from this study will help the librarians in understanding institutional and user differences and similarities, to identify the user problems and reduce the gap between user perception and expectation. Hence this study at the University of Colombo will be an initiator and basis for future research on this subject in the University Library sector in Sri Lanka

The aim of this research was to assess the service quality of the University of Colombo library system through user perspectives. Following objectives were set to achieve that aim of the study.

- i. To explore the users’ expectations for excellent service quality from the University of Colombo Library System
- ii. To determine the users’ satisfaction in relation to service performances in the University of Colombo library system
- iii. To determine the service quality gap (expectation- performance) of the University of Colombo Library System

## **2. METHOD OF THE STUDY**

To determine user expectations and satisfaction of the University of Colombo Library System a user survey was conducted in the library. The University of Colombo had a total student population of approximately 12158 in the year 2008 and there were 475 academic staff members (University Grants Commission, 2008). The study sample was selected randomly. A total of 855 printed questionnaires were distributed to the library users of the University of Colombo. The questionnaire was distributed directly to users during approximately four weeks a period from end of May 2008 to end of June 2008. Six hundred and thirty four usable questionnaires were received indicating 74% of overall response rate.

After an extensive review of literature on service quality the attributes relevant to academic libraries in Sri Lanka were selected by a panel of experts and the questionnaire was prepared using the 35 selected items most appropriate to the Sri Lankan academic library environment For this study, SERVQUAL was

adapted to examine the service quality of the library of the University of Colombo. The questionnaire thus constructed was to assess users' expectations and satisfaction. To measure user expectations and satisfaction seven point Likert scale was used with "1" being "strongly disagree" and "7" being "strongly agree".

A pilot test was conducted to assess the reliability of the attributes and ensure that the wording, format, length and sequencing of questions were appropriate. Reliability analysis was employed to test the internal consistency of the questionnaire. The reliability coefficient cronbach's alpha for the user expectation scale was 0.921. The alpha value was 0.865 for the perception scale.

### 3. RESULTS

#### 3.1 Ranked expectation verses performance

Table 1 demonstrates the relationship between respondents' perceived importance in each of the thirty five attributes ranked from 1 to 35 with their corresponding performance ranking. The five most important areas expected by users were (1) Relevance of information received (6.806 out of 7), (2) Access to electronic journals (6.731 out of 7), (3) Adequate lighting (6.660 out of 7), (4) Convenient opening hours (6.630 out of 7) and (5) Giving users individual attention (6.623 out of 7).

The five least important areas were (1) Feel safe and secure in the library (5.982 out of 7) (2) User education programmes (6.191 out of 7), (3) Library guides, brochures and alert services (6.279 out of 7), (4) Visually appealing facilities (6.355 out of 7) and (5) Understanding the needs of users (6.375 out of 7).

**Table 1. Ranked expectation verses performance**

Attribute	Expectation score mean	Rank expectations	Performance mean	Rank performance
Relevance of information received	6.806	1	5.645	3
Access to electronic journals	6.731	2	4.033	35
Adequate lighting	6.660	3	5.369	14
Convenient opening hours	6.630	4	4.503	28
Giving users individual attention	6.623	5	5.294	16
Dependability in handling users' service problems	6.620	6	5.293	17
Knowledgeable about user questions	6.620	7	5.561	7
Courteous, polite and friendly staff	6.617	8	5.593	4
Providing services at the promised time	6.615	9	5.562	6
Accuracy of information received	6.607	10	5.817	1
Performing services right the first time	6.585	11	5.438	10
Availability of staff when required	6.584	12	4.871	22

Willingness to help users	6.583	13	5.566	5
Online catalogue is easy to use	6.577	14	4.284	32
Staff who instill confidence in users	6.572	15	5.419	12
Availability of required information	6.560	16	4.732	26
Convenient access to library collection	6.559	17	5.437	11
A pleasant comfortable and inviting location	6.556	18	5.047	19
Currency of information received	6.555	19	4.917	21
Having the user's best interest at heart	6.544	20	5.127	18
Online catalogue is an accurate source of information	6.541	21	4.438	30
Modern equipment(photocopiers, scanners, printers, etc.) in good condition	6.536	22	4.313	31
Quiet study areas	6.528	23	4.502	29
Clear directional signs for collection	6.495	24	5.539	8
Making users feel secure about transactions	6.482	25	5.519	9
Approachable staff	6.463	26	5.373	13
Keeping users informed	6.459	27	4.776	25
Neat, professionally appearing staff	6.455	28	5.301	15
Well organized web page	6.393	29	4.190	33
Condition of library materials	6.377	30	4.974	20
Understanding the needs of users	6.375	31	4.868	23
Visually appealing facilities	6.355	32	4.083	34
Library guides, brochures and alert services	6.279	33	4.528	27
User education programmes	6.191	34	4.788	24
Feel safe and secure in the library	5.982	35	5.708	2

### 3.2 Ranked performances verses expectations

Table 2 shows the relationship between the library's performance in each of the thirty five attributes ranked from 1 to 35 with their corresponding expectation ranking. The five highest performance areas are (1) Accuracy of information received (5.817 out of 7), (2) Feel safe and secure in the library (5.708 out of 7), (3) Relevance of information received (5.645 out of 7), (4) Courteous, polite and friendly staff (5.593 out of 7) and (5) Willingness to help users (5.66 out of 7)

The five lowest performance areas are (1) Access to electronic journals (4.033 out of 7), (2) Visually appealing facilities (4.083 out of 7), (3) Well organized web page (4.190 out of 7), (4) Online catalogue is easy to use (4.284 out of 7) and (5) Modern equipment (photocopiers, scanners, printers, etc.) in good condition (4.313 out of 7)

**Table 2. Ranked performance verses expectations**

Attribute	Performance score mean	Rank performance	Expectation score mean	Rank expectations
Accuracy of information received	5.817	1	6.607	10
Feel safe and secure in the library	5.708	2	5.982	35
Relevance of information received	5.645	3	6.806	1
Courteous, polite and friendly staff	5.593	4	6.617	8
Willingness to help users	5.566	5	6.583	13
Providing services at the promised time	5.562	6	6.615	9
Knowledgeable about user questions	5.561	7	6.620	7
Clear directional signs for collection	5.539	8	6.495	24
Making users feel secure about transactions	5.519	9	6.482	25
Performing services right the first time	5.438	10	6.585	11
Convenient access to library collection	5.437	11	6.559	17
Staff who instill confidence in users	5.419	12	6.572	15
Approachable staff	5.373	13	6.463	26
Adequate lighting	5.369	14	6.660	3
Neat, professionally appearing staff	5.301	15	6.455	28
Giving users individual attention	5.294	16	6.623	5
Dependability in handling users' service problems	5.293	17	6.620	6
Having the user's best interest at heart	5.127	18	6.544	20
A pleasant comfortable and inviting location	5.047	19	6.556	18
Condition of library materials	4.974	20	6.377	30
Currency of information received	4.917	21	6.555	19
Availability of staff when required	4.871	22	6.584	12
Understanding the needs of users	4.868	23	6.375	31
User education programmes	4.788	24	6.191	34
Keeping users informed	4.776	25	6.459	27
Availability of required information	4.732	26	6.560	16
Library guides, brochures and alert services	4.528	27	6.279	33
Convenient opening hours	4.503	28	6.630	4
Quiet study areas	4.502	29	6.528	23
Online catalogue is an accurate source of information	4.438	30	6.541	21
Modern equipment(photocopiers, scanners, printers, etc.) in good condition	4.313	31	6.536	22
Online catalogue is easy to use	4.284	32	6.577	14
Well organized web page	4.190	33	6.393	29
Visually appealing facilities	4.083	34	6.355	32
Access to electronic journals	4.033	35	6.731	2

### 3.3 Ranked gap analysis

The gap analysis provided insight into the gap between the importance of the library services to the users and the libraries' performance as perceived by respondents.

As seen in table 3, the five areas with the more significant gaps between user expectations and service quality for the thirty five attributes are (1) Access to electronic journals ( gap score 2.698, with an expectation ranking 2/35)), (2) Online catalogue is easy to use (2.293, with an expectation ranking 14/35), (3) Visually appealing facilities (2.272, with an expectation ranking 32/35), (4) Modern equipment (photocopiers, scanners, printers, etc.) in good condition (2.223, with an expectation ranking 22/35) and (5) Well organized web page (2.203, with an expectation ranking 29/35).

The five areas with the smallest gaps between user expectations and satisfaction for thirty five attributes were (1) Feel safe and secure in the library (0.275, with an expectation ranking 35/35), (2) Accuracy of information received (0.789, with an expectation ranking 10/35), (3) Clear directional signs for collection (0.956, with an expectation ranking 24/35), Making users feel secure about transactions (0.963, with an expectation ranking 25/35) and Willingness to help users (1.017, with an expectation ranking 13/35).

**Table 3. Ranked Gap Score (Expectation- Performance)**

Attribute	Mean Expectation (E)	Rank E	Mean Performance (P)	Rank P	Mean Gap (E-P)	Rank Gap (E-P)
Access to electronic journals	6.731	2	4.033	35	2.698	1
Online catalogue is easy to use	6.577	14	4.284	32	2.293	2
Visually appealing facilities	6.355	32	4.083	34	2.272	3
Modern equipment(photocopiers, scanners, printers, etc.) in good condition	6.536	22	4.313	31	2.223	4
Well organized web page	6.393	29	4.190	33	2.203	5
Convenient opening hours	6.630	4	4.503	28	2.127	6
Online catalogue is an accurate source of information	6.541	21	4.438	30	2.102	7
Quiet study areas	6.528	23	4.502	29	2.026	8
Availability of required information	6.560	16	4.732	26	1.828	9
Library guides, brochures and alert services	6.279	33	4.528	27	1.750	10
Availability of staff when required	6.584	12	4.871	22	1.714	11
Keeping users informed	6.459	27	4.776	25	1.683	12
Currency of information received	6.555	19	4.917	21	1.638	13
A pleasant comfortable and inviting location	6.556	18	5.047	19	1.508	14
Understanding the needs of users	6.375	31	4.868	23	1.507	15
Having the user's best interest at heart	6.544	20	5.127	18	1.417	16



Condition of library materials	6.377	30	4.974	20	1.403	17
User education programmes	6.191	34	4.788	24	1.403	18
Giving users individual attention	6.623	5	5.294	16	1.329	19
Dependability in handling users' service problems	6.620	6	5.293	17	1.327	20
Adequate lighting	6.660	3	5.369	14	1.291	21
Relevance of information received	6.806	1	5.645	3	1.161	22
Neat, professionally appearing staff	6.455	28	5.301	15	1.154	23
Staff who instill confidence in users	6.572	15	5.419	12	1.152	24
Performing services right the first time	6.585	11	5.438	10	1.148	25
Convenient access to library collection	6.559	17	5.437	11	1.123	26
Approachable staff	6.463	26	5.373	13	1.090	27
Knowledgeable about user questions	6.620	7	5.561	7	1.059	28
Providing services at the promised time	6.615	9	5.562	6	1.053	29
Courteous, polite and friendly staff	6.617	8	5.593	4	1.024	30
Willingness to help users	6.583	13	5.566	5	1.017	31
Making users feel secure about transactions	6.482	25	5.519	9	0.963	32
Clear directional signs for collection	6.495	24	5.539	8	0.956	33
Accuracy of information received	6.607	10	5.817	1	0.789	34
Feel safe and secure in the library	5.982	35	5.708	2	0.275	35

#### 4. DISCUSSION

The desired service expectations of users reflect that the users required relevance and accurate information that matches their needs with E journal access facilities. They need adequate light to do their studies in the library and expect convenient opening hours to access to the library. They also expect from the staff individual attention when they encounter a service problem and also dependability when handling user questions. The staff who have knowledge to answer their questions and are courteous, polite and friendly providing services at the promised time. These are their other expectations from the library staff that are included in the first ten user expectations.

These findings are very much similar to the survey results of the University of Hong Kong libraries in 2004 (Woo, 2005). According to Woo (2005), the highest expected service attribute was related to books in your discipline or relevance of information as identified by this study too. Attributes related to electronic resources, convenient opening hours and staff related attributes such as knowledgeable staff and the provision of services at the promised time are also included in the first ten expectations (Woo, 2005) agreeing with the results of this study. Deviating from our user expectations users of Hong Kong libraries are more concerned about the online catalogue and the library web site giving them high expectation ranks.

The service quality attributes “staff with the knowledge to answer user questions” was one of the higher user expectations all around the world (Nimsomboon and Nagata, 2003; Filiz, 2007). It is interesting to note that both University of Colombo library users and University of Hong Kong library users have ranked library user education programmes and library guides brochures and alert services as the least expected service quality attributes. This proves that user expectations related to staff attributes are common to all users without a cultural deviation or a technical advancement. At the Association of Research libraries’ (ARL) symposium on service quality in October 2000, Calvert compared studies of customer expectations in China and New Zealand to determine if culture is a factor that influences service expectations. The results suggested that national culture was not a factor and that library customer expectations are similar in the United States, New Zealand, Singapore and the People’s Republic of China (Calvert, 2001). According to Calvert (2001),

“there is much potential for International collaboration on assessing library service quality as seen from a cross-cultural study comparing perceptions of service quality among library users in New Zealand and China and unequivocally concluded that there are global commonalities in the way users think about library service quality. Marked similarities in results show that there is perhaps a global set of customer expectations that can be used to measure academic library service quality” (p.750).

User satisfaction reflects that the users of the University of Colombo library are generally satisfied with the Accuracy and relevance of information they received from the library. They always feel safe and secure when using the library and are also satisfied with sign posting that indicate clear directional signs for the collection. They are highly satisfied with staff related attributes such as Courteous, polite and friendly staff, willingness to help users, providing services at the promised time, knowledgeable about user questions, making users feel secure about transactions and performing services right the first time. Users’ satisfaction on staff related attributes are parallel to the Woo (2005) study. Politeness and friendliness of the library staff, their readiness to help users and the staff are knowledgeable to answer user questions are ranked in the top most position of the ranked performance list in both studies. It is important to note that in the University of Hong Kong library (Woo, 2005) and Finish academic libraries (Filiz, 2007) users are more satisfied with Library catalogue, web page and quality of the information they received (Woo, 2005, Filiz, 2007) ranked them as highly satisfied service quality attributes while the library users in the University of Colombo ranked them as less satisfied service quality attributes.

This study on measuring service quality has principally focused on how to meet or exceed users’ expectations. The findings illustrate that the users have higher expectations than perceptions, which lead to the gap between expected service and perceived service. The service quality gap explains the difference between what the user expected to receive from the service and what they believe they actually did receive. This is significant because, when the perceived service falls short of the customer’s expectations, they are found to be disappointed and dissatisfied. According to Filiz (2007), the concept of measuring the difference between user expectation and perception in the form of the SERVQUAL gap score proved very useful for assessing levels of service quality. This study applied an adopted SERVQUAL instrument to measure service quality of the University of Colombo library system.

According to the results of gap analysis, the larger gaps were related to E-resources and library catalogue. The largest gap of all was “Access to electronic journals”. Similar results were encountered in Hong Kong University libraries and according to the survey results in Hong Kong university libraries their second largest gap score was for “electronic resources is accessible from my home/ office” (Woo, 2005). The possible reason for the largest gap, access to electronic journals may be due to insufficient subscribed E- journals with full text down load facilities. Due to financial constrains now Sri Lankan University libraries rely on only a very few number of electronic databases and some open access electronic journals. Due to this reason, the majority of the library users are disappointed and dissatisfied with available E-resources (Damayanthi, 2006) and this may have led to the largest gap score of desired service expectation and actual service perception. This problem is common to all Sri Lankan University libraries and there is an urgent requirement for a national level solution to overcome this problem. The solution could be an establishment of a financially strong and sustainable national level consortium.

Large gap scores were found for the attributes related to the library catalogue; online catalogue that is easy to use and it is an accurate source of information. Users face difficulties when searching library materials due to their poor searching ability via the library catalogue and inadequate knowledge of the arrangements of the library collection. Similar results were obtained from the study done by Filiz (2007) at Osmangazi University and Anadolu University, the largest gap score was found in his study for “an online catalogue easy to use”. Users’ knowledge of both the catalogue and the shelf arrangement should be enhanced via ongoing library orientation programmes parallel to the undergraduate curriculum.

Large gap scores were also found for attributes related to library collection and ease of access by giving high ranks to availability of required information. These sections were amongst the most problematic areas and users seem to be dissatisfied with the available collection. Answers to open ended questions revealed that insufficient copies of books, inadequacy of latest books, not enough journal titles and re-shelving problems were significant among other comments as the reasons for this large gap. Therefore there is a need to increase the number of copies of books with a greater demand and a need to update the collection by adding new editions. To achieve this library allocations for books and journals should be increased.

## **5. CONCLUSION**

This study which measured both the user expectations and satisfaction gave a better picture of how well the library stands as a service organization. The most important area expected by users was relevance of information received followed by access to electronic journals and adequate lighting in reading areas. The highest performance area was accuracy of information received followed by feel safe and secure in the library and relevance of information received. Access to online journals showed the largest gap between user expectation and performances.

## 6. REFERENCES

- [1] Calvert, P. J. and Herson, P. (1997). Surveying service quality within University Libraries. *Journal of Academic Librarianship*. 23, 408-415.
- [2] Calvert, P.J. (2001). International variations in measuring customer expectations. *Library trends*. 49, 732-757.
- [3] Cullen R. and Calvert P.J. (1995). Stakeholder perceptions of university library effectiveness. *Journal of Academic Librarianship*, 21(6), 438-448.
- [4] Cullen R. (2001). Perspectives on user satisfaction surveys. *Library Trends*. 49(4).
- [5] Damayanthi, K.P.N. (2006). An assessment of electronic information resources usage management: a case study at university of Peradeniya. Masters thesis, University of Colombo.
- [6] Filiz, Z. (2007). Service quality of University Library: a survey amongst students at Osmangazi University and Anadolu. University. *Ekonometri ve İstatistik Say*. 1, 1-19. Retrieved October 16, 2007 from <http://www.eidergisi.istanbul.edu.tr/sayi5/ueis5m1.pdf> html
- [7] Harwood, N. and Byder, J. (1998). Perspectives on... student expectations of, and satisfaction with, the university library. *Journal of Academic Librarianship*. 24 , 161-171.
- [8] Herson, P. and Calvert, P.J. (1996). Methods for Measuring Service Quality in University Libraries in New Zealand. *Journal of Academic Librarianship*. 22, 387-391.
- [9] Herson, P. (2002) Quality: new directions in the research. *Journal of Academic Librarianship*. 28, 224-231.
- [10] Nimsomboon, N. and Nagata, H. (2003). Assessment of library service quality at Thammasat university library system. Thammasat University. Retrieved October 13, 2007 from [www.kc.tsukuba.ac.jp](http://www.kc.tsukuba.ac.jp) html
- [11] Nitecki, D.A. (1996). Changing the Concept and Measure of Service Quality in Academic Libraries. *Journal of Academic Librarianship*. 22, 181-190.
- [12] Parasuraman, A. *et al.* (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*. 49, 41-55.
- [13] Poll, R. (2003) Measuring impact and outcome of libraries. *Performance Measurement and Metrics* . 4, 5-12.
- [14] Rowena, C. (2001). Perspectives on user satisfaction surveys. *Library Trends*. 49(4), 662-687.
- [15] Sayo, N.C.S. (2006). Improving library services through the application of business performance concepts. Masters Dissertation. University of the Western Cape. Retrieved November 11, 2007 from <http://etd.uwc.ac.za/index.php?module=etd&action=browsetitle&displayLimit=10&displayStart=8&searchForLetter=IM> html
- [16] University Grants Commission, (2008). Sri Lanka University Statistics 2007. Colombo, University Grants Commission.
- [17] Walters, W.H. (2003). Expertise and evidence in the assessment of library service quality. *Performance Measurement and Metrics*. 4, 98-102.
- [18] Wisniewski, M. and Wisniewski, H.M. (2005). Measuring service quality in a hospital Colposcopy clinic. *International Journal of Health Care Quality Assurance*. 18(3), 217-228.

[19] Woo, Helen. 2005. The 2004 survey at the University of Hong Kong libraries. *College and research libraries*. March 2005, 1-20.