

**Identification of Gap in Knowledge Capturing and Dissemination in  
Jadavpur University Central Library using Knowledge  
Management Tools**

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## **Introduction**

Knowledge Management has a vital role in today's information processing and dissemination era. It emerged as a process of creating, capturing, organizing, storing and dissemination of diverse forms of knowledge to serve the interests of an enterprise to sustain and to lead in a market of growing competitions. It is highly used in business enterprises for protecting their intellectual capitals, increasing focus on their most important assets, i.e. human resource, building a knowledge sharing culture, help in cost reduction, finding out the cause of delay in a process, reason for failure of projects to improve organizational profit in terms of saving manpower, money and time. In the process of knowledge management, creation of knowledge is an act of converting tacit knowledge into explicit form. Besides, knowledge management system also includes required data selectively from among the existing stock of explicit knowledge. It is our hypothesis that the applications of the principles, tools and techniques of knowledge management can improve the capability of knowledge creation, capturing, storing and dissemination of an academic institution. Existing literary output on the field and its related areas (available in LISA online, ILSA, Bibliography of Doctoral Dissertations, Indian Dissertation Abstracts, Bibliography of Doctoral Dissertations, University News, and IASLIC Newsletter, Scopus, Jstore, Proquest, Jgateplus and other full text databases) shows evidences of growing research on the applications of knowledge management principles, tools and techniques for improving the capability of knowledge creation, capturing, storing and dissemination of the business enterprises in a market of growing competitions. However, such literature shows little evidence of research on the applications of knowledge management principle, tools and techniques for improving capabilities of knowledge capture and dissemination of academic institutions. Therefore, a notable knowledge gap has been identified on the area concern.

## **Statement of the Problem:**

Paradigm shift of the Traditional Libraries towards Digital Library or Virtual Library not only changes the form of Libraries but also drastically changes the pattern of users' need as well as library services (George, Savithy & Vimal, 2015). Inventions of new technologies are the main reason behind such changes. Though such inventions or developments can't replace the existence of traditional library services but it always gives challenges to adopt new technologies or customise the services as per the users' need. To fulfil various users' need library staff may need to update

not only the services but also themselves (Duarah,2016). Hemon & Nitecni (2001) have discussed various reasons why library should have interest in improving service quality. The first and foremost reason behind it is to increase the library users' satisfaction. So now **the research problem of this study can be framed as:**

Finding out the gap between Knowledge capturing and dissemination of Jadavpur University Central Library by using Knowledge Management Tools.

### **Objective of the Study**

The objective of this study was to find out the gap between Knowledge capturing and dissemination of Jadavpur University Central Library by using Knowledge Management Tools, and to bridge those gaps by following a suitable Knowledge Management (KM) model.

In order to achieve the objective, the study required the following tasks.

- i. To know the various user groups of Jadavpur University,
- ii. To find out the need of various users' groups,
- iii. To rank the user needs based on the priority,
- iv. To understand the available services provided by the Central Library,
- v. To understand Library organisational structure,
- vi. To know about the library collection of Central Library Resources,
- vii. To map the users' need with the existing resources,
- viii. To find out the area of gaps,
- ix. To find out the way of bridging the gap and mitigate the same, and
- x. To propose a suitable model for smooth running of Jadavpur Central Library.

### **Hypotheses**

A statistical hypothesis denotes a declaration ( Dalkir, 2005).

Based on the above discussed research problem the following hypothesis can be framed out (Gupta & Kapoor, 2004):

**Hypothesis1:**

**Ho:** Library staff members are well trained and qualified

**H1:** Library staff members are not well trained and qualified

**Hypothesis2.**

**Ho:** Library staff will provide right direction to retrieve right information

**H1:** Library staff will not provide right direction to retrieve right information

**Hypothesis3.**

**Ho:** Library staff will willingly guide the user

**H1:** Library staff will not willingly guide the user

**Hypothesis 4**

**Ho:** Library staff understands the need of the users

**H1:** Library staff will not understand the need of the users

**Hypothesis 5**

**Ho:** Behaviour of Library staff is very co-operative and polite.

**H1:** Behaviour of Library staff is not at all co-operative and polite.

**Hypothesis 6**

**Ho:** Library staff provides personal attention to individual users.

**H1:** Library staff doesn't provide personal attention to individual users.

**Hypothesis7**

**Ho:** Library staff have enough knowledge to solve user queries.

**H1:** Library staff doesn't have enough knowledge to solve user queries.

### **Hypothesis8**

**Ho:** Library staff makes information easily accessible.

H1: Library staff couldn't make information easily accessible.

### **Hypothesis 9**

**Ho:** Library staff members make arrangement of fruitful user orientation for better service.

H1: Library staff can't arrange effective user orientation for better service.

### **Hypothesis10**

**Ho:** Library has sufficient Printed books required for the users' work

H1: Library does not have sufficient Printed books required for the users' work

### **Hypothesis 11**

**Ho:** Library has sufficient Printed journals required for the users' work

H1: Library doesn't have sufficient Printed books required for users' work

### **Hypothesis12**

**Ho:** Library has sufficient e-book/e-journals/ Digital Library

H1: Library doesn't have sufficient e-book/e-journals/ Digital Library

### **Hypothesis 13**

**Ho:** Library provides satisfactory Information search gateway (card catalogue/ OPAC/ WEBOPAC)

H1: Library doesn't provide satisfactory Information search gateway (card catalogue/ OPAC/ WEBOPAC)

#### **Hypothesis 14**

Ho: Library has sufficient newspaper/ magazine

H1: Ho: Library doesn't have sufficient newspaper/ magazine

#### **Hypothesis 15**

Ho: Library has sufficient computer facility/ internet

H1: Library doesn't have sufficient computer facility/ internet

#### **Hypothesis 16**

Ho: Library provides satisfactory photocopy/scanning/ printing service

H1: Library doesn't provide satisfactory photocopy/scanning/ printing service

#### **Hypothesis 17**

Ho: Library has sufficient notice boards/ new arrival display/ current awareness service

H1: Library doesn't have sufficient notice boards/ new arrival display/ current awareness service

#### **Hypothesis 18**

Ho: Library reading room is very calm, quiet, neat and clean

H1: Library reading room is not calm, quiet, neat and clean

#### **Hypothesis19**

**Ho:** Library furniture are modern and comfortable to use

H1: Library furniture are not modern and comfortable to use

## **Hypothesis 20**

Ho: Library has good lighting and very much airy

H1: Library don't have good lighting and not much airy

## **Hypothesis 21**

Ho: Library is very safe for self-study

H1: Library is not very safe for self-study

## **Hypothesis 22**

Ho: Enough reading room place and enough place for group study

H1: Don't have enough reading room place and enough place for group study

## **Methodology**

This research work is purely a case study and Jadavpur University Library has been taken as the case for the study (Kothari, 2004). With regard to the objective of the study, the population is not unique. To achieve the goal of the research different tasks needed to be done in different ways. For convenience and to make the study manageable, sampling technique has chosen to reach the objective of the study. Data has been collected by using questionnaire and schedule as a tool for data collection. The entire investigation has been conducted in various stages as described below:

### **Inventory Study:**

To understand Library holding, services, working hour, no of staff etc, a thorough inventory study has been conducted by using questionnaire.

### **Need Analysis:**

A schedule has been made for this step (g).

Total no of questionnaire distributed: 493

No of questionnaire returned: 386

No of questionnaire selected for the study: 364

Questionnaire distributed by: personally

Based on the answers of Library users a priority list of Library resources and services made, from the priority list first 22 (resources and services) has been selected for the main study. Selection of 22 questions is completely based on case system i.e., a Library quality analysis tool.

### **Data Collection:**

A separate questionnaire has been designed by following LIBQUAL format for data collection. Selection of questions done, based on priority list which was found by Need Analysis responses.

The questionnaire developed on 5-point Likert Scale (Joshi, Kale, Chandel & Pal, 2015).

Questionnaire was divided in two broad categories:

1. Questions for Main study- 22 no of questions.
2. Optional questions.

The main study area contains 22 questions as LIBQUAL format.

22 questions are divided in three areas:

- i. Affect of Service- 9 questions
- ii. Information Control- 8 questions
- iii. Library as a Place-5 questions.

Apart from the main study questions the other areas are:

5 Optional questions

5 Information Literacy questions



3 General Satisfactions

3 Library Questions

**Gap analysis** (Kim and Yingru, 2018)

After receiving the data same has been analysed to derive the gap by using below mentioned formula:

$$KG= KS-KE$$

Here,

KG= Knowledge Gap

KS= Knowledge Satisfaction

KE= Knowledge Expectation

Conducting a gap analysis of any process or system or organisation is not a very easy task. As we know people will easily share their success story but hardly disclose the failure story. Finding out the failure and gap analysis are interrelated process. The current study was is purely a case study where information dependency was from both side i.e. from organisational side to get the information regarding Library holding as well as from different user categories to understand their needs.

To get information regarding yearly Library collections such as books, journals, magazines, e-book etc. is a very tough job. Even getting data about subject wise collection was more difficult. 50 most used books for last five years may not be that tough as getting a list of 50 unused books for last five years.

During the time of studying the users' need few hurdles was came on the way. The questionnaire format was developed based on 5-point Likert scale. At the time of data analysis few self-opposed answers were found.

Such as one user answered the fine collection procedure is very smooth as she checked on '5' in 5 point likert scale where as she never paid any fine only.

One of the user has mentioned that he liked the online reservation/ renewal system where as he never avail this service even.

Another user mentioned in his response that he never uses eBook/e-journals/ Digital Library but at the same time he has also mentioned that he is not satisfy with the e-book collection.

A user gave a self-contradictory response as she has mentioned that she is fully satisfied with printed journals available for her work but she never used printed journals, as per her work information.

Getting back the completely filled questionnaire was the toughest work during the study. Getting sufficient users for filling up the questionnaire were also another big problem. Questionnaires which all distributed and received after dully filled in as soft copy also had various technical problems, such as Microsoft office versions.

## **Significance of the Study**

The basic function of Library and Information Centre of any organisation is to fulfil the users' need. The immense use and development of Information technologies forced to change the status, collection and services of any Library and Information Centre. In this changing scenario the needs of the user are also changing very frequently. A thorough study of user need as well as library holding is must be required to cope up this situation. Current study started with understanding the need of the various user group by developing questionnaire and then author questionnaire has been made to collect the information regarding library holding and finally by using LIBQUAL as a Knowledge Management tool has used to understand the grey areas where the library may need to take care for providing better service. This study not only helps the user to get their required information but also it helps in betterment of any library or information centre. To maintain good quality service this study may need to conduct frequently on regular interval.

## **Chapters**

This study has been divided in seven chapters as below:

Chapter 1: This is the introductory chapter of the study. Statement of the problem, objective of the study, hypothesis, methodology, limitations in scope, significance of the study, style of reference and the structure of the thesis have been described here.

Chapter2: This chapter gives an idea about the existing literature on the following topics: a) overview and misconceptions among three concepts i.e., data, information and knowledge. b) Types of knowledge based on various theories and principles c) idea about the concept of Knowledge Management, its importance and applications in various industries. d) KM tools, principles and technologies e) KM tools for quality assessment f) KM tools for Library quality assessment g) Knowledge gap analysis g) data analysis by using R software h) role of library in higher education.

Chapter3: This chapter deals with a comparative study of three quality assessment tool i.e., TQM, SERVQUAL and LIBQUAL

Chapter4: This chapter describes parameters, issues, tools, techniques etc which has been used during the study. It can be explained in details as it gives an idea about (A) research issues such as user need, library holding, user satisfaction, knowledge mapping, and gap analysis (B) research parameters such as population, sample, sampling technique (C) Data collection tools, (D) data measurement tools and (E) data analysis tools.

Chapter5: This chapter deals with data analysis part of the study. Data has been collected from Library to understand the library holding as well as to understand the individual user need. Data has been collected by using LIBQUAL format and collected data has been analysed by using R software.

Chapter6: This chapter explains the existing Knowledge Management models and on the basis of the existing model a customized model for JU central library has been proposed.

Chapter7: This is the final chapter of the study includes major findings, answer of research questions, recommendations for bridging the gap between user expectation and satisfaction. The chapter ends with summary.

## Summary of Findings

Findings revealed from data analysis show the existence of Knowledge gaps in between Users' expectation and Users' satisfaction data of Jadavpur University central library. Though the range of the gap varies from one parameter to another, as well as the score too. The range of the knowledge gap in this study lies between -2.31 to +2.3.

Identified scores of the knowledge gap related to the parameters are as depicted below (starting from extreme negative).

The gaps with negative values are incorporated.

### 7.1.A Gap 1

**Score: -2.31**

Question: Enough reading room place and enough place for group study

Area: Library as a place

Finding: In this case t value is -62.631 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### 7.1.B Gap 2

**Score: -2.19**

Question: Printed books you required for your work

Area: Information control

Finding: In this case t value is -5.1048 and p value is  $5.353e-07$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.C Gap 3**

**Score: -1.78**

Question: Library reading room is very calm, quiet, neat and clean

Area: Library as a place

Finding: In this case t value is -64.024 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.D Gap 4**

**Score: -1.56**

Question: Printed journals you required for your work

Area: Information control

Finding: In this case t value is -50.313 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.E Gap 5**

**Score: -1.47**

Question: Good Lighting and airy

Area: Library as a place

Finding: In this case t value is -41.75 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.F Gap 6**

**Score: -1.29**

Question: Photocopy/Scanning/ Printing service

Area: Information control

Finding: In this case t value is -39.791 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.G Gap 7**

**Score: -0.83**

Question: Computer facility/ Internet

Area: Information control

Finding: In this case t value is -38.813 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.H Gap 8**

**Score: -0.74**

Question: Library staff makes information easily accessible.

Area: Affect of services

Finding: In this case t value is -22.336 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.I Gap 9**

**Score: -0.46**

Question: e-book/e-journals/ digital library

Area: Information control

Finding: In this case t value is -10.112 and p value is  $< 2.2e-16$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.J Gap 10**

**Score: -0.22**

Question: Information search gateway (card catalogue/ OPAC/ WEBOPAC)

Area: Information control

Finding: In this case t value is -5.1048 and p value is  $5.353e-07$  which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.K Gap 11**

**Score: -0.09**

Question: Library staff will willingly guide the user

Area: Affect of services

Finding: In this case t value is -6.1156 and p value is 1.2444e-09 which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

### **7.1.L Gap 12**

**Score: -0.09**

Question: Library staff understands the need of the users

Area: Affect of services

Finding: In this case t value is -5.1048 and p value is 5.353e-07 which is lesser than 0.05 so null hypothesis is **rejected**.

It proves that users' expectation is higher than satisfaction.

## **7.2 Conclusion**

Based on the findings drawn from the study, it may be generalised that:

There are considerable similarities in the information requirements of the users. There are, however, some differences in their information requirements. There are numerous gaps between library collections and services and users information needs. Using a KM model can help reduce the gaps and find areas for improvement.

## **7.3 Scope of Further Research:**

Further research can be conducted on the following areas.



- Identification of gap between perceptions and expectations of public library users.
- Measuring gaps in service quality of University libraries in West Bengal from users' perspectives.