



ACADEMIC LIBRARIAN SEMINAR

ADAPT | INITIATE | INNOVATE

#ACADEMICLIBRARIANSEMINAR

**AN OVERVIEW OF ANALYSIS MODELS AND
MEASUREMENTS IN LIBRARY PERFORMANCE
ASSESSMENT RESEARCH**

Muslim Ismail-Ahmad, Nordelina Zulkarnain,
Rosmariyati Ab Rahman, Norfitriah Mat Seman



UNIVERSITI
TEKNOLOGI
MARA

Perpustakaan
Tengku Anis
Cawangan Kelantan
Kampus Machang





**ACADEMIC
LIBRARIAN
SEMINAR**
ADAPT | INITIATE | INNOVATE



اَبُو سَيِّدِي تَيْكُو لُو كِي مَرَا
**UNIVERSITI
TEKNOLOGI
MARA**

Perpustakaan
Tengku Anis
Cawangan Kelantan
Kampus Machang

Presentation By : **DR. MUSLIM BIN ISMAIL @ AHMAD**



PRESENTER



INTRODUCTION

- Performance assessment of a university library is essential to determine whether the library meet its specific objectives and also to justify library spending – (Kumar, A., & Mahajan, P.,2019).
- Academic library is mportance to their parent organization by reciting statistics focused on inputs (resource investments) and outputs (services produced)–(Blixrud,J,2003).
- This conceptual paper is an overview of several research articles on library performance evaluation which focuses on university libraries around the world.



AUTHORS

*Perpustakaan Tengku Anis,
Universiti Teknologi MARA Cawangan Kelantan,
Kampus Machang,
18500, Machang, Kelantan, MALAYSIA*

*Perpustakaan Tengku Anis,
Universiti Teknologi MARA Cawangan Kelantan,
Kampus Kota Bharu, Lembah Sireh,
15050 Kota Bharu, Kelantan, MALAYSIA*

DR. MUSLIM BIN ISMAIL @ AHMAD

PUSTAKAWAN KANAN
muslim368@uitm.edu.my

NORDELINA BINTI ZULKARNAIN

PUSTAKAWAN KANAN
delina023@uitm.edu.my

ROSMARIYATI BT AB RAHMAN

PUSTAKAWAN KANAN
rosma857@uitm.edu.my

NORFITRIAH BT MAT SEMAN

PUSTAKAWAN KANAN
norfitriah@uitm.edu.my



1



2



3



4



An Overview of Analysis Models and Measurements in Library Performance Assessment Research

Muslim Ismail-Ahmad¹, Nordelina Zulkarnain², Rosmariyati Ab Rahman³,
Norfitriah Mat Seman⁴

^{1,2,4}Perpustakaan Tengku Anis, Universiti Teknologi MARA Cawangan Kelantan,
Kampus Machang, 18500, Machang, Kelantan, MALAYSIA
muslim368@uitm.edu.my
delina023@uitm.edu.my
norfitriah@uitm.edu.my

³Perpustakaan Tengku Anis, Universiti Teknologi MARA Cawangan Kelantan,
Kampus Kota Bharu, Lembah Sireh, 15050, Kota Bharu, Kelantan, MALAYSIA
rosma857@uitm.edu.my

ABSTRACT

This conceptual paper is an overview of several research articles on library performance evaluation which focuses on university libraries around the world. The objective of this paper is to underline two important elements from selected papers, analysis models and efficiency scores. From the selected papers, a pattern of library performance analysis models was identified; LIBQUAL in three papers, data envelopment analysis (DEA) in three papers, SERVQUAL in two papers, and a combination of both LIBQUAL and SERVQUAL in one paper. In terms of research measurement, three papers sought out answers on library space with one particular paper related to indoor air quality, two papers on number of book loans, one paper on usage of electronic theses and several other measurements. On the positive side, this paper provided basic information foundation for those interested in library performance appraisal, academically or professionally.

KEYWORDS

Library performance evaluation, LIBQUAL, SERVQUAL, data envelopment analysis

OPERATIONAL DEFINITION : LIBRARY PERFORMANCE ASSESSMENT



Is the specified mechanism (e.g. objectives, participants, procedures, criteria, rating scales etc.) used to guide and regulate the process of performance evaluation, (Pan & Li, 2006)• Timely feedback of quality is essential so that recovery in meeting users' satisfaction is possible, (Hossain et al., 2014)



Service quality is a significant asset to productive academic research and increased use of database resources and technologies, (Rafi et al., 2022).



Timely feedback of quality is essential so that recovery in meeting users' satisfaction is possible, (Hossain et al., 2014)

ANALYSIS MODELS

DEA

- Founded on the comparison of actual with best observed productivity
- It is measured as the proportion of services produced to inputs used
- can handle multiple inputs and outputs (Reichmann & Sommersguter-Reichmann, 2010)

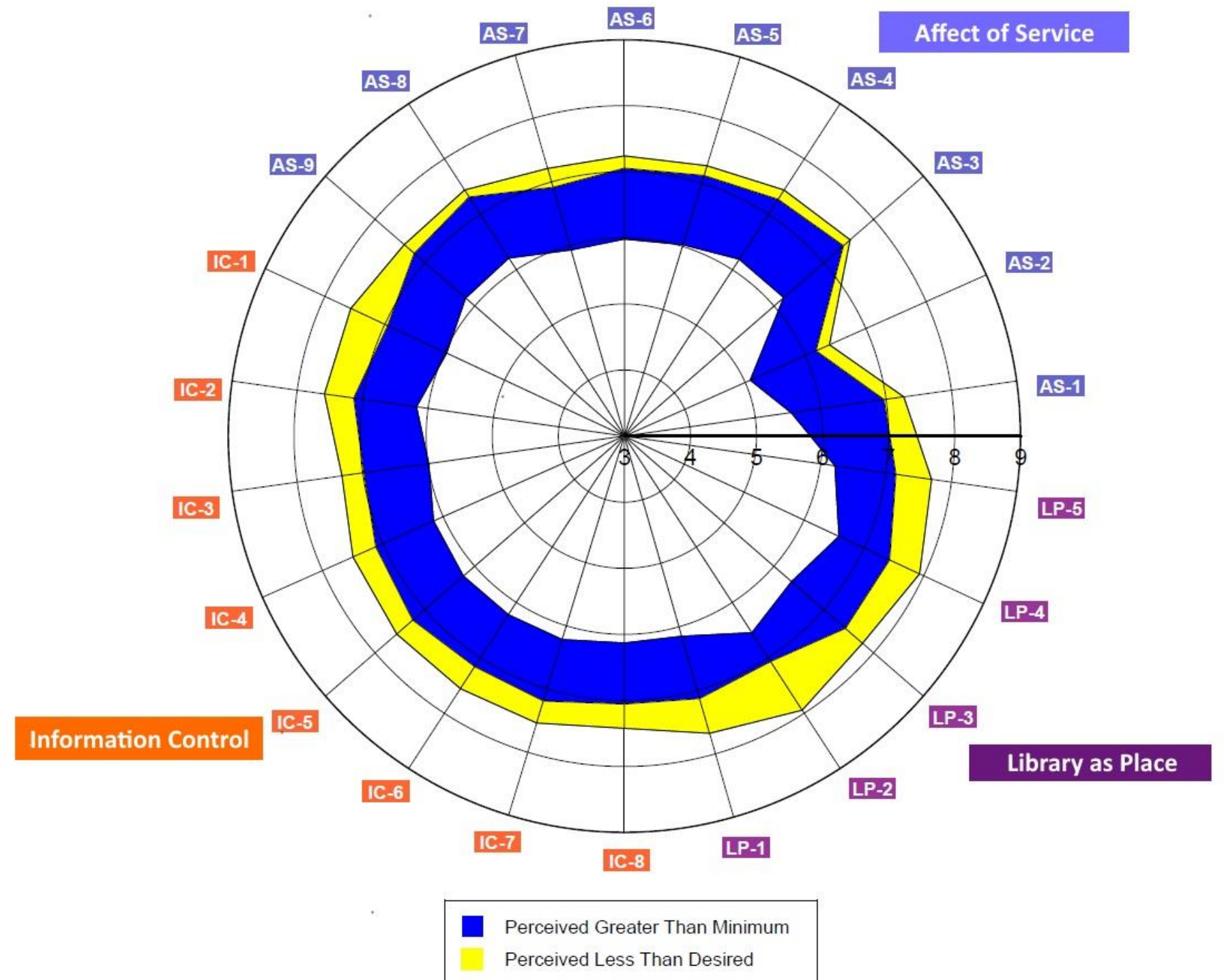


ANALYSIS MODELS

LIBQUAL

- A survey use to solicit, track, understand, and act upon users' opinions of service quality.
- A rigorously tested web-based survey that assess and improve library services, change organizational culture, and market the library.
- Measures library users' minimum, perceived, and desired levels of service quality across 3 dimensions: Affect of Service, Information Control, and Library as Place, (LibQUAL+®, 2020).






LIBQUAL MAIN DIMENSIONS



ANALYSIS MODELS

SERVQUAL DIMENSIONS

- A scale, a tool for measuring service quality developed by Parasuraman et al., (1988)
- Widely used in service industries such as banking, hospitals, tourism, and in library and information centres for more than two decades, (Hossain & Ahmed, 2013)

DIMENSION		SAMPLE EXPECTATIONS ITEM
RELIABILITY		When excellent telephone companies promise to do something by a certain time, they do so
ASSURANCE		The behaviour of employees in excellent banks will instill confidence in cutomers
TANGIBLES		Excellent telephone companies will have modern looking equipment
EMPATHY		Excellent banks will have operating hours convenient to customers
RESPONSIVENESS		Employees of excellent telephonr companies will never be too busy to help a customer

ANALYSIS MODELS

1

LZSG Zero Sum Gains

- Update and extension of DEA model

DEA

2

Indoor Quality

- WAHW
- New-type of chlorine dioxide (ClO₂) and weak acid hypochlorous water (WAHW) were used to study the microorganism disinfection effect to improve air quality in indoor spaces
- Many studies have demonstrated the efficiency of WAHW in disinfecting monoculture
- bacteria, such as E. coli, S. aureus, Salmonella, Vibrio, Bacillus spores, and Leuconostoc sp. (Issa-Zacharia, Kamitani, Morita, & Iwasaki, 2010; Nakayama et al., 2003; Quan, Choi, Chung, & Shin, 2010).

MEASUREMENTS

- Affect of Service, Information Control, and Library as Place, (McCaffrey, 2013)
- Research dimension (resources, competence, responsiveness, demeanor, tangibles), (Hossain & Ahmed, 2013)



■ **LIBRARY SIZE**

■ **BHELD –BOOK MATERIALS HELD**

■ **CIRC – NUMBER OF TOTAL CIRCULATIONS**

■ **FTE – FULL TIME EQUIVALENT**

■ **SER –NUMBER OF SERIAL SUBSCRIPTIONS**

■ **BADD – NUMBER OF BOOK MATERIALS ADDED (REICHMANN & SOMMERSGUTER–REICHMANN, 2010)**

MEASUREMENTS : THREE INPUTS



01

Number of employees



02

Area



03

Number of volumes

MEASUREMENTS : FOUR OUTPUTS



01

Consultations



02

Loans



03

Enrolments



03

User Traffic



DISCUSSION

LIBQUAL and SERVQUAL are not adequate for measuring the totality of operations and systems of the library, (Iroaganachi & Nkiko, 2016).

According to Shi and Levy (2005) the application of SERVQUAL in library assessment and the theoretical issues and practical concerns of LibQUAL merit serious examination.

There is a slight movement towards the increase of systemic inefficiency, if no initiative is taken in managerial terms- (De Carvalho, Frederico A., et al., 2012)

The ill-management of the electronic theses and dissertations initiatives is the reason for the poor global visibility and accessibility of these research outputs.

Poorly designed systems do exist at our work places that impose quite negative impacts on us.



CONCLUSION

Library performance research is an important part of measuring library operations in proportion to the resource allocation with usage

DEA, ZERO-SUM GAINS, LIBQUAL, SERVQUAL are several of the commonly applied analysis models used in library performance measurement

Two apparent mode of data collection: actual data (DEA, ZSG) and surveys (LIBQUAL, SERVQUAL)

Each has advantages and disadvantages



CONCLUSION

Actual data input/output subject to unknown reason (eg. why loan/usage is low)

Surveys is hard to gauge actual answer especially in comparison to interviews

Combination of both actual data and surveys may rectify both weakness

Recent progress in data collection technology such as 'Dark Data' is a potentially a novel solution in library performance research



**ACADEMIC
LIBRARIAN
SEMINAR**
ADAPT | INITIATE | INNOVATE



اَبُو سَيِّدِي تَبَاكَو لُو كَجَم مَبَارَا
**UNIVERSITI
TEKNOLOGI
MARA**

Perpustakaan
Tengku Anis
Cawangan Kelantan
Kampus Machang

Q&A SESSION





**ACADEMIC
LIBRARIAN
SEMINAR**
ADAPT | INITIATE | INNOVATE



اوپن ايسيتي تيكنولوݢي مارا
**UNIVERSITI
TEKNOLOGI
MARA**

Perpustakaan
Tengku Anis
Cawangan Kelantan
Kampus Machang



Toward
GL
RE
UN

THANK YOU



Perpustakaan Tengku Anis



@ptautilmkelantan



@ptautilmkelantan



Perpustakaan Tengku Anis