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# How's Our Library E-Services? Measuring User Satisfaction in the Virtual Environment

**April R. Manabat**  
*Senior Expert Librarian*

# Talk Points

Introduction

Service Quality in Libraries

Customer Satisfaction

SpringShare LibAnswers'  
Quality of Service (QoS)

Objectives

Methodology

Results and Discussion

Tickets and Chats

*Turnaround*

*Ratings*

*User Feedback*

Conclusions



# Introduction



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# Introduction

With the ever-increasing amount of information available online, libraries need to assert itself in the information landscape by assessing the quality of the service being rendered to their clients alongside **improving user satisfaction** (Kiran, 2010) as this will also ensure **“increase in their user base and remain to be responsive on meeting their users’ expectations”** (Adeniran, 2011, p. 209).

# Introduction

Gauging user satisfaction is indeed imperative for any service-oriented institutions and organizations from the get-go and **users' or customers' voices always matter** (Adeniran, 2011).

With majority of library services going virtual especially with the onset of pandemic, it became even more challenging and tricky for libraries to **determine if they meet user expectations.**

# Service Quality in Libraries

defined as **'the overall evaluation of a specific service firm that results from comparing that firm's performance with the customer's general expectations of how firms in that industry should perform'** (Parasuraman et al., 1988, p. 15) and with the intensified competition, having a superb **"service quality seems to be a prerequisite to success, if not survival"** (p.15).



# Service Quality in Libraries

**SERVQUAL** - a set of 22 pairs of statements used to measure user expectations in the marketing field. (Zeithaml, Parasuraman, and Berry (1988))

- Tangibles
- Reliability
- Responsiveness
- Assurance
- Empathy

# Service Quality in Libraries

In the library context, service quality is **“the overall excellence of library services that satisfy users’ expectation”** (Wang & Sheih, 2006, p. 195).

**LIBQUAL** (*Association of Research Libraries, 1999*)  
- 25 items that focuses on gauging user perception on service quality in the library setting aligned in these four dimensions (Twun et al., 2022; Cook et al., 2003):

- ✓ Service effect
- ✓ Library as place
- ✓ Information access
- ✓ Personal control

# Customer Satisfaction

**“consumer’s fulfillment response, which act as an evaluation based on an emotion-based response to a product or service received”**  
(Ahmad & Allan, 2014, p. 17).



# Customer Satisfaction

In the library context, it is **"the levels of service quality performances that meets users' expectations"** (Wang & Shieh, 2006, p. 197).

Perceptions and expectations of customers comes from their **experiences and feelings as well belief, opinion, and predictions about the products and services they received** (Ahmad & Allan, 2014, p. 20).

# Service Quality & Customer Satisfaction

**Service quality should be treated as an antecedent of customer satisfaction** (Twun et al., 2022; Wang & Shieh, 2006).

As noted by Ahmad & Allan (2014), satisfaction is defined to be **“the gap between the perception and expectation of the end-user”**, thus, **“customer satisfaction should be measured only by performance”** (p. 20) as service **“quality is also a pride of workmanship”** (p. 45).

# Service Quality and Customer Satisfaction

Satisfaction of library users is **result of their perception of the quality of library services**, thus, **service quality will give way to user satisfaction resulting to user loyalty and patronage in libraries** (Twun et al., 2022).

# LibAnswers' Quality of Service (QoS)

Launched in January 2021, this new feature aims to gather statistics dedicated to **assessing the quality of service libraries provided through LibAnswers' chat and tickets** (SpringShare, 2021).

This also gathers user feedback and analyze metrics relevant to virtual reference and library assistance **"to reduce dissatisfied tickets, enhance patron satisfaction, and capture staff output"** (Breeding, 2021).

# LibAnswers' Quality of Service (QoS)

The NU Library decided to introduce Quality of Service (QoS) feature in March 2021.

Metrics such as checking the **turnaround time in answering tickets and chats and the number of interactions, replies, as well as ratings** were also generated from this feature.

To get the user feedback, the Library sends a customizable follow-up survey to **at least 25% of the closed tickets everyday.**

Given the metrics, the Library was also able to further improve the service rendered to the academic community.



# Objectives



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# Objectives

- ✓ To determine the satisfaction of users with the virtual service of Nazarbayev University Library during the Spring 2021 to Spring 2022 semesters;
- ✓ To examine various metrics such as the turnaround time and the number of interactions in answering the queries received both in synchronous (chat service) or asynchronous (email service) reference service; and
- ✓ To explore feedback from users to determine the overall effectiveness virtual reference service as well as the areas that need to be improved.





# Methodology



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# Methodology

- ✓ Descriptive approach
- ✓ data gathered from LibAnswers' Quality of Service (QoS) from March 2021 to June 2022
- ✓ Metrics examined:
  - ❖ the turnaround time;
  - ❖ the number of interactions;
  - ❖ the number of replies;
  - ❖ the duration of each transaction; and
  - ❖ the ratings.
- ✓ Feedback were explored using Voyant Tools, a web-based data visualization software.
  - ❖ Cirrus
  - ❖ Collocates Graph
  - ❖ Bubbles



# Results and Discussions

From March 2021 to June 2022, the NU Library received 3,534 tickets and 1,732 chat transactions.

# Results and Discussions: Ticket Turnaround

Turnaround Time	Number of Ticket Transactions	Percentage
0-1 hour	2,045	58
1-2 hours	104	3
2-3 hours	55	2
3-4 hours	51	1
4-5 hours	26	1
5-7 hours	74	2
7-10 hours	130	4
10-15 hours	315	9
15-24 hours	311	9
24-36 hours	87	2
36-48 hours	153	4
48-72 hours	123	3
72+ hours	60	2
<b>Total</b>	<b>3,534</b>	<b>100</b>

## *Results and Discussions: Ticket Turnaround*

Turnaround Time	Number of Ticket Transactions	Percentage
0-1 hour	1,513	43
1-2 hours	135	4
2-3 hours	79	2
3-4 hours	63	2
4-5 hours	41	1
5-7 hours	76	2
7-10 hours	134	4
10-15 hours	332	9
15-24 hours	402	11
24-36 hours	129	4
36-48 hours	189	5
48-72 hours	180	5
72+ hours	261	7
<b>Total</b>	<b>3,534</b>	<b>100</b>

*Table 2. Tickets Turnaround Time Before Closing from March 2021 to June 2022  
(Source: Statistics: Quality of Service (QoS) | 2022, August 31)*

## *Results and Discussions: Ticket Turnaround*

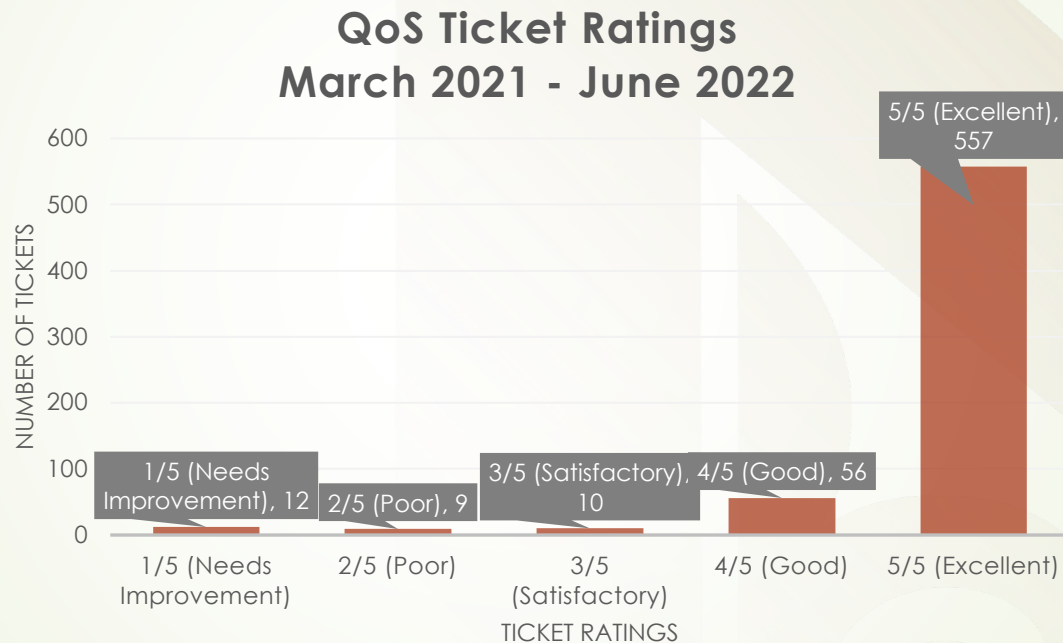
Number of Interactions to Close	Number of Ticket Transactions	Percentage
<=1	2,065	58
2	1,000	28
3	315	9
4	86	2
5	45	1
6	11	0
7	6	0
8	4	0
9	1	0
10	0	0
11	1	0
>=12	0	0
<b>Total</b>	<b>3,534</b>	<b>100</b>

*Table 3. Number of Interactions Before Closing the Transactions from March 2021 to June 2022 (Source: Statistics: Quality of Service (QoS) | 2022, 31 August 31)*

## Results and Discussions: Ticket Turnaround

Number of Replies to Close a Transaction	Number of Ticket Transactions	Percentage
<=1	2,713	77
2	595	17
3	162	5
4	38	1
5	18	1
6	5	0
7	1	0
8	1	0
9	1	0
10	0	0
11	0	0
>=12	0	0
<b>Total Tickets</b>	<b>3,534</b>	<b>100</b>
<b>Total Replies</b>	<b>4,148</b>	

# Results and Discussions: Ticket Ratings



*Figure 1. QoS Ticket Ratings from March 2021 to June 2022  
(Source: Statistics: Quality of Service (QoS) | 2022, August 31)*

# Results and Discussions: Chat Turnaround

Wait Time to Response	Number of Chat Transactions	Percentage
0-15 seconds	1,629	94
15-30 seconds	83	5
30-45 seconds	14	1
45-60 seconds	0	0
1-2 minutes	2	0
2-3 minutes	2	0
3-4 minutes	2	0
4-5 minutes	0	0
5+ minutes	0	0
<b>Total</b>	<b>1,732</b>	<b>100</b>

*Table 5. Chat Turnaround Time Before Getting Claimed (1st Reply) from March 2021 to June 2022 (Source: Statistics: Quality of Service (QoS) | 2022, August 31)*

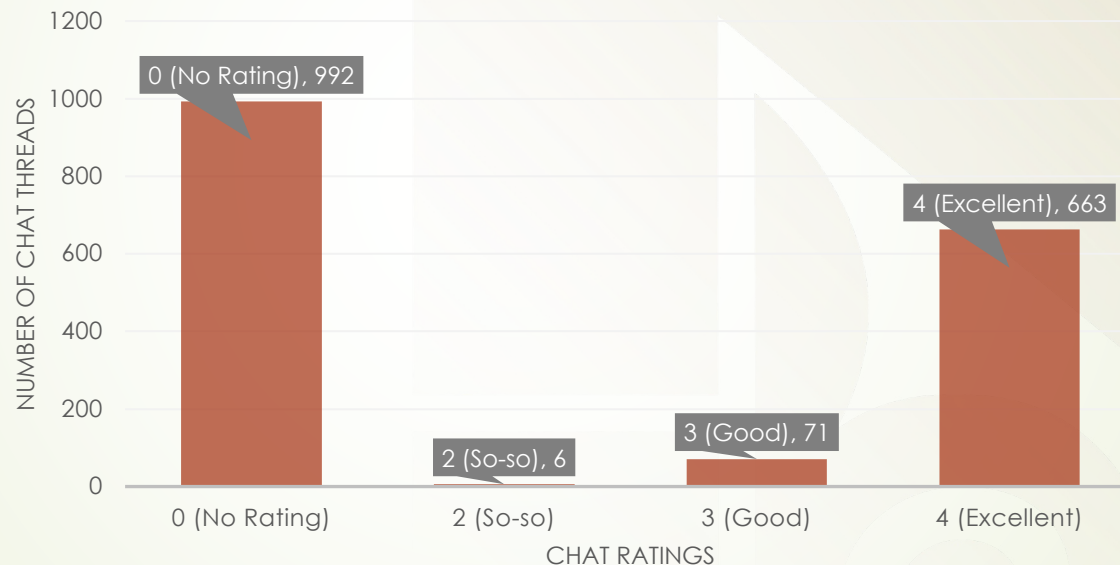
# Results and Discussions: Chat Turnaround

Chat Duration	Number of Chat Transactions	Percentage
0-2 minutes	221	13
2-5 minutes	459	27
5-10 minutes	540	31
10-15 minutes	247	14
15-20 minutes	125	7
20-25 minutes	42	2
25-30 minutes	31	2
30-40 minutes	40	2
40-50 minutes	20	1
50-60 minutes	4	0
60+ minutes	3	0
<b>Total</b>	<b>1,732</b>	<b>100</b>

*Table 6. Chat Duration from March 2021 to June 2022  
(Source: Statistics: Quality of Service (QoS) | 2022, August 31)*

# Results and Discussions: Chat Ratings

## QoS Chat Threads Ratings March 2021 - June 2022

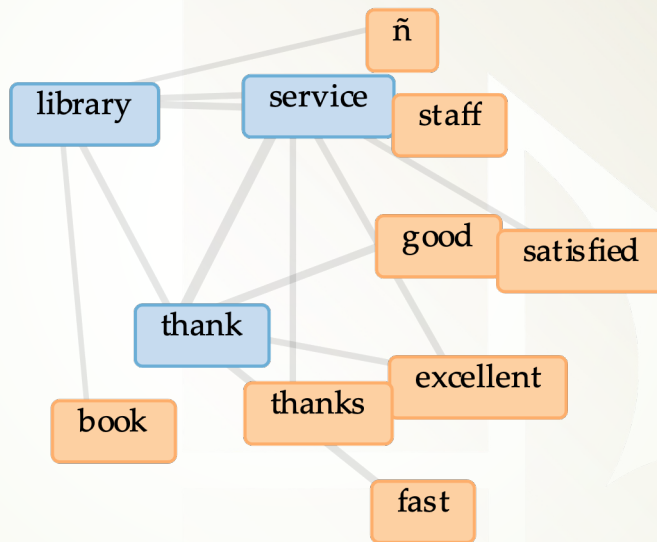


*Figure 2. QoS Chat Threads Ratings from March 2021 to June 2022  
(Source: Statistics: Quality of Service (QoS) | 2022, August 31)*



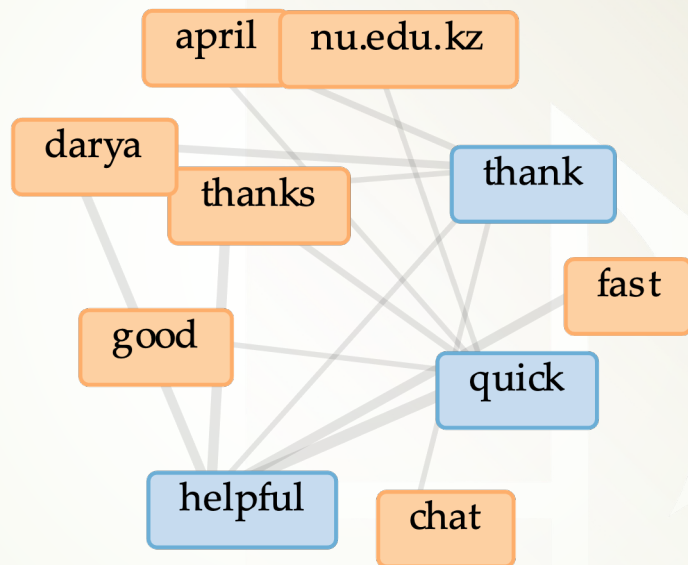


# Results and Discussions: Ticket and Chat Feedback



*Figure 5. Collocates Graph from Ticket Feedback from March 2021 to June 2022 generated using Voyant Tools.*

# Results and Discussions: Ticket and Chat Feedback



*Figure 6. Collocates Graph from Chat Feedback from March 2021 to June 2022 generated using Voyant Tools.*



# Results and Discussions: Ticket and Chat Feedback



Figure 8. Bubbles from Chat Feedback from March 2021 to June 2022 generated using Voyant Tools.



# Conclusions



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## Conclusions

This study revealed that **patrons were satisfied with the virtual service** rendered by NU Library both in synchronous and asynchronous format.

With the help of the metrics generated from LibAnswers Quality of Service (QoS) feature, **the NU Library was able to provide an excellent service despite the limitations brought by the pandemic.** The feedback from patrons was indeed a proof of their satisfaction.

As service quality and user satisfaction will always go together, the library, as a service-oriented information arm of any institution, **should always put their patrons as their top priority.**

# References

- Adeniran, P. (2011). User satisfaction with academic libraries services: Academic staff and students perspectives. *International Journal of Library and Information Science*, 3(10), 209–216. <https://academicjournals.org/journal/IJLIS/article-full-text-pdf/3BAE80A4863>
- Ahmad, H., & Allan, M. (2014). *Customer satisfaction*. Universiti Utara Malaysia. <https://ebookcentral.proquest-com.ezproxy.nu.edu.kz/lib/astana/detail.action?docId=6766392>
- Breeding, M. (2021, Jan. 27). Springshare: Measuring user satisfaction with LibAnswers. *Library Technology Guides*. <https://librarytechnology.org/pr/25868>
- Cook, C., Heath, F., Thompson, B., & Webster, D. (2003). LibQUAL+ TM: Preliminary results from 2002. *Performance Measurement and Metrics*, 4(1), 38–47. <https://doi-org.ezproxy.nu.edu.kz/10.1108/14678040310471236>
- Customer satisfaction. (2011). In J. Law, *Business: the ultimate resource* (3rd ed.). A&C Black. Credo Reference: [http://p2048.ezproxy.library.nu.edu.kz.ezproxy.nu.edu.kz/login?url=https://search.credoreference.com/content/entry/ultimatebusiness/customer\\_satisfaction/0?institutionId=7630](http://p2048.ezproxy.library.nu.edu.kz.ezproxy.nu.edu.kz/login?url=https://search.credoreference.com/content/entry/ultimatebusiness/customer_satisfaction/0?institutionId=7630)
- Dahan, S. M., Taib, M. Y., Zainudin, N. M., & Ismail, F. (2016). Surveying users' perception of academic library services quality: A case study in university Malaysia Pahang (JUMP) library. *The Journal of Academic Librarianship*, 42(1), 38–43. <https://doi-org.ezproxy.nu.edu.kz/10.1016/j.acalib.2015.10.006>
- Gathoni, N., & Van der Walt, T. (2019). Evaluating library service quality at the Aga Khan university library: Application of a total quality management approach. *Journal of Librarianship and Information Science*, 51(1), 123–136. <https://doi-org.ezproxy.nu.edu.kz/10.1177/0961000616679725>
- Kiran, K. (2010). Service quality and customer satisfaction in academic libraries: Perspectives from a Malaysian university. *Library Review*. [https://eprints.um.edu.my/25563/1/LibReview\\_service%20quality%20and%20cust%20satisfaction\\_2010.pdf](https://eprints.um.edu.my/25563/1/LibReview_service%20quality%20and%20cust%20satisfaction_2010.pdf)
- Martensen, A., & Grønholdt, L. (2003). Improving library users' perceived quality, satisfaction and loyalty: an integrated measurement and management system. *The Journal of Academic Librarianship*, 29(3), 140–147. <https://www.sciencedirect.com/ezproxy.nu.edu.kz/science/article/pii/S009913330300020x>
- Nitecki, D. A. (1996). Changing the concept and measure of service quality in academic libraries. *The journal of academic librarianship*, 22(3), 181–190. <https://www.sciencedirect.com/ezproxy.nu.edu.kz/science/article/pii/S0099133396900567?via%3Dihub>
- Nitecki, D. A., & Herson, P. (2000). Measuring service quality at Yale University's Libraries. *Journal of Academic Librarianship*, 26(4), 259. <https://discovery-ebSCO-com.ezproxy.nu.edu.kz/linkprocessor/plink?id=3d73f013-1172-3c79-950f-158a9ea3a54a>
- Oliveira, S. M., & Greenidge, N. (2020). Information seeking behavior of distance learners: What has changed in twenty years? *Journal of Library & Information Services in Distance Learning*, 14(1), 2–27. doi:<https://doi.org/10.1080/1533290X.2020.1791301>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perception of service quality. *Journal of Retailing*, 64(1), 12–40.
- Pedramnia, S., Modjramani, P., & Ghavami Ghanbarabadi, V. (2012). An analysis of service quality in academic libraries using LibQUAL scale: Application oriented approach, a case study in Mashhad University of Medical Sciences (MUMS) libraries. *Library Management*, 33(3), 159–167. <https://doi-org.ezproxy.nu.edu.kz/10.1108/01435121211217144>
- Selga-Cristobal, A. (2018). Expectations on library services, library quality (LibQual) dimension and library customer satisfaction: Relationship to customer loyalty. *Library Philosophy and Practice*, 1–23. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=4888&context=libphilprac>
- Sinclair, S. & G. Rockwell. (2022). Bubbles. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?corpus=576d1f7bc248006ea2b35029a8389557&view=Bubbles>
- Sinclair, S. & G. Rockwell. (2022). Bubbles. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?corpus=70f20abe5258ae40da6ec34799aa0601&view=Bubbles>
- Sinclair, S. & G. Rockwell. (2022). Cirrus. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?visible=105&corpus=576d1f7bc248006ea2b35029a8389557&view=Cirrus>
- Sinclair, S. & G. Rockwell. (2022). Cirrus. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?visible=95&corpus=70f20abe5258ae40da6ec34799aa0601&view=Cirrus>
- Sinclair, S. & G. Rockwell. (2022). Links. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?query=sheloful&query=thank&query=quick&mode=corpus&corpus=576d1f7bc248006ea2b35029a8389557&view=CollocatesGraph>
- Sinclair, S. & G. Rockwell. (2022). Links. *Voyant Tools*. Retrieved September 1, 2022, from <https://voyant-tools.org/?query=thank&query=service&query=library&mode=corpus&corpus=70f20abe5258ae40da6ec34799aa0601&view=CollocatesGraph>
- Srnlith, A. M. (1995). Measuring Service Quality: Is SERVQUAL now Redundant? *Journal of Marketing Management*, 11(1–3), 257–276. <https://discovery-ebSCO-com.ezproxy.nu.edu.kz/linkprocessor/plink?id=62ecc040-eb9c-38be-82a2-5138085a52d1>
- SpringShare. (2021). LibAnswers statistics: Quality of Service statistics for tickets & chats. <https://ask.springshare.com/libanswers/fan/2856>
- Twum, K. K., Adams, M., Budu, S., & Budu, R. A. A. (2022). Achieving university libraries user loyalty through user satisfaction: the role of service quality. *Journal of Marketing for Higher Education*, 32(1), 54–72. <https://doi.org/10.1080/08841241.2020.1825030>
- Vogus, B. (2020). Examining virtual reference services in academic libraries. *Public Services Quarterly*, 16(4), 249–253. doi:<https://doi-org.ezproxy.nu.edu.kz/10.1080/15228959.2020.1818664>
- Wang, I.-M., & Shieh, C.-J. (2006). The relationship between service quality and customer satisfaction: the example of CJCJ library. *Journal of Information & Optimization Sciences*, 27(1), 193–209. <https://doi-org.ezproxy.nu.edu.kz/10.1080/02522667.2006.10699686>
- Yap, J. M., & Manabat, A. R. (2021). Are we in-sync? Students' virtual instructional experience and perceived information literacy skills in time of pandemic. *Internet Reference Services Quarterly*, 25(4), 1–16. <https://doi.org/10.1080/10875301.2021.1988796>
- Zeithaml, V. A., Parasuraman, A., Berry, L. L., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Simon and Schuster.

Thank you for  
listening!

**April R. Manabat**  
*Senior Expert Librarian  
NU Library  
Astana, Kazakhstan*

[april.manabat@nu.edu.kz](mailto:april.manabat@nu.edu.kz)  
[aprilmanabat@gmail.com](mailto:aprilmanabat@gmail.com)



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