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Emma Wilcox

Nanyang Technological University, Singapore, ELWilcox@ntu.edu.sg

Chia Yew Boon

Nanyang Technological University, Singapore, ybchia@ntu.edu.sg

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**FOSTERING A STICKY RELATIONSHIP:
A CASE STUDY FROM
NANYANG TECHNOLOGICAL
UNIVERSITY**

Emma Wilcox and Chia Yew Boon

Nanyang Technological University Singapore

ELWilcox@ntu.edu.sg

YBChia@ntu.edu.sg

Introduction

In their book *Attention Economy: Understanding the New Currency of Business* (Davenport and Beck, 2001) published in 2001, Professors Davenport and Beck focus on what they see as one of the most pressing concerns for the business world, the increasing difficulty in getting the attention of the consumer. At the beginning of the twenty-first century 'capital, labor, information and knowledge are in plentiful supply...what's in short supply is human attention' (p.2). The reason for this 'attention deficit' (p.2) is a surfeit of information, such that humans, who have limitations in their ability to process information, have developed the skill of filtering out less relevant information and devoting attention to things most important to their survival. The key to business success therefore, for Davenport and Beck, is attention. Attention has become like a monetary instrument, 'those who don't have it want it. Even those that have it want more' (p.2). This is what Davenport and Beck call the 'Attention Economy'.

To compete in the Attention Economy, a company must be good at getting and retaining attention. This ability to gain and retain attention is what Davenport and Beck call the 'molasses principle' of 'stickiness'. Using as an example, the effectiveness of websites for electronic commerce (e-commerce), they assert that the success of a 'sticky' site is that it 'lures web surfers, holds them and keeps them coming back for more'. To obtain stickiness, Davenport and Beck identify four essential factors; Relevance, Engagement, Community and Convenience, these four form what Davenport and Beck call the 'Sticky Qua Non' (Davenport & Beck 2001, p.115). It is the application of these four factors that is the key to success in the Attention Economy.

Since the publication of *Attention Economy* there has been exponential growth in the amount of information produced and available especially online. If as Davenport and Beck cite, 'a wealth of information creates a poverty of attention' (Davenport & Beck 2001, p.9), this is even more so in 2012 than in 2001.

Although they are not businesses, academic libraries face the same need as companies to gain and retain the attention of the community they exist to serve. The online revolution has made a plethora of information so available and accessible that students and faculty do not always see the benefits of using the library's resources and services vis-à-vis those of other information providers. Thus, the central role of the library to learning and research in universities is sometimes challenged such that the library has to learn to compete to gain the attention of its intended users.

Aim and Objectives

The aim of this paper is to demonstrate how Davenport and Beck's stickiness model of the four factors of Relevance, Engagement, Community and Convenience, can be applied to an academic library setting and to evaluate how far these factors can help to create a 'sticky' relationship between the academic library and its users. This relationship is deemed to be vital to ensure that the library enjoys strong support in the university.

With the Humanities and Social Sciences (HSS) Library at Nanyang Technological University (NTU) as an example, this paper explores each of the four factors in turn, to investigate what each factor means in the context of an academic library, and how the factor has been applied. An evaluation will be made, based on a survey, to establish the importance of the factors to users of the HSS Library.

Conclusions will be drawn as to whether improvements could be made in the application of the factors to improve the stickiness of the library. An evaluation will also be made regarding the usefulness of the model for the academic library.

The Context

The School of Humanities and Social Sciences (HSS) at NTU is one of the youngest schools in the university. Created in 2003, the school is rapidly expanding and currently has 160 full time faculty members, around 2,600 undergraduate students and 300 graduate students, enrolled in its programmes. The students are mainly Singaporeans in the 18-25 age group.

The HSS School is chiefly served by two of NTU's seven libraries; the Humanities and Social Sciences Library (HSS Library) and the Chinese Library. These libraries are in close proximity to the school. This paper will focus on the HSS Library.

The Four Factors

In this paper, Davenport and Beck's model of stickiness will be adapted to provide a framework to assess the strengths and weaknesses of the library and to provide pointers to ensure the continued importance of the library in the university learning community. The four critical factors of Relevance, Engagement, Community and Convenience are broken down by Davenport and Beck into sub-factors. However, as the original model was created to address e-commerce websites, some of these sub-factors, such as 'entertainment', 'production values', 'minimal distractions', are not directly relevant to the academic library. Each factor will therefore be examined in its totality rather than from its sub-factors.

Relevance

For Davenport and Beck, a sticky website provides 'relevant' content. Traditionally, for academic libraries, relevance meant developing a good collection per se. Today there is greater emphasis on the needs of the user. This means that the library's relevance extends beyond the collection to the services it offers (Tilley and Priestner, 2010).

User-driven libraries were popularized with the opening of the first boutique library in Singapore in 1999. Library@orchard, was a public library catering specifically to young adults. The collection (including comics), the services (including rock concerts) and the location (in a shopping mall) were selected to make it relevant and hence appealing to youth. Tilley and Priestner (2010) took on the idea of the boutique library and applied it to the academic library. The academic boutique library model is all about creating a personalised, tailored service that values 'individuality and uniqueness' above 'uniformity and consistency' (Tilley & Priestner, 2010, p.1).

The boutique model does help to fulfil the relevance factor, particularly as it hinges on the subject librarian to provide a personalised, tailored service to make the collection and the services relevant to the user. At the HSS Library, in terms of the collection development, print and electronic resources are specially selected by subject librarians both out of their own research into subjects being taught and in response to requests from faculty and students. Feedback on collection development is given by the faculty usually via email or through meetings with the library co-ordinator, a member of the faculty who it nominates to liaise with the library.

In terms of services, the librarians create online subject rooms to package content for the users. A subject room is a collation of links to useful resources for a given subject, from books and journals, both print and electronic, to DVDs and websites. This fulfils students' learning needs by providing quick and comprehensive access to information and resources in their subject area. Subject rooms also provide guidance on essay writing tools and skills such as how to avoid plagiarism and how to reference in the citation style required by the respective school divisions.

The library also has a presence in the campus course management system called EdveNTUre. In this virtual environment, faculty and students interact frequently, downloading lecture slides, viewing recorded lectures, participating in discussion forums and uploading assignments. The HSS Library has created a role for itself by adding a customised library tab for many HSS course modules with links to a variety of resources

for the specific module. These resources are a combination of materials requested by the lecturer and materials selected by the librarian. Sometimes, recent journal articles are pushed to the course sites using RSS feeds, providing a regular stream of updated content. While the subject room provides links to information and resources about the subject, the library tab in EdveNTUre aligns resources directly to each course module. It is a form of embedded librarianship, a way to highlight to students the immediate relevance of the collection to their study needs.

Other important aspects of relevance include offering materials that are of appropriate scope and up-to-date. This ensures that students are not overwhelmed and that they have access to recent information. For example, the HSS Library has experimented with enhancing book displays by providing links to other media for those users who are keen to explore the topics more deeply. This has been accomplished by adding Quick Response (QR) codes to bookmarks placed inside the books. These QR codes connect the user to more relevant and up-to-date resources, such as video interviews with the book's author, the author's website and book review sites.

Engagement

According to Davenport and Beck, relevance is not enough to produce a sticky relationship. Relevance can be offered by alternative services and sources. This is especially true nowadays with the rapid proliferation of search tools and user-generated content, creation of institutional repositories and mass digitisation projects. To improve the user's perception of the unique value of the library and thereby foster stickiness, Engagement is a crucial factor.

Lu and Guo (2009) identify that in mass communication theory, 'the effect of information communication is mainly determined by two aspects: content and relationships. The degree of relationship determines the quantity [and quality] of communicated information' (p.260). Thus, connecting with users in order to form relationships, is crucial to creating awareness of the library's resources and services.

Cultivating meaningful interaction is the first step in the engagement process. This is done face to face and virtually. Besides communicating via email, the HSS Library actively creates opportunities for 'face time' with users by organising freshmen teas, providing research assistance at the library counter, inviting new faculty members to a personalised library briefing, dropping by the faculty's office to get feedback or simply chatting with the faculty when meeting them on campus.

Library instructional workshops are another channel to engage directly with students and their lecturer. At NTU there are four types of instructional workshops – (a) a general introduction to the library, (b) in-depth subject database workshop, (c) a workshop for final year project (FYP) students and (d) general information literacy workshops. The subject database and final year project (FYP) workshops present the best opportunity to engage with students because they are often compulsory. FYP students are also very motivated to learn how to navigate their subject's databases because they are required to do independent research. Students often get in touch with the librarian after these workshops.

The Library also collaborates with the Language and Communication Centre which offers a module on essay writing skills to all HSS students. The library conducts workshops on library resources, but there could be an opportunity for greater partnership if the library could 'co-teach' and offer a wider range of workshops covering mind maps for brainstorming, how to avoid plagiarism, formulation of citation styles and management of citations (EndNote).

The HSS Library is exploring further avenues of interaction with students such as by providing small intimate workshops for topics that might interest them. Recently, a course on using an open source mind mapping software was conducted in the library

and there has been a request by a student for training on qualitative analysis software. Conducting a greater diversity of instructional workshops is a viable strategy for generating engagement.

The library can provide not only subject resources but also engage with faculty and students by offering technical expertise and facilities to support their projects and research. In 2010 NTU Library led a project to develop a campus-wide social networking platform called blogs@NTU. The HSS Library has leveraged on the platform to initiate and assist faculty and students to develop their course or research websites. These blog-based websites support a diversity of needs, from facilitating teaching and learning to promoting research and outreach.

Providing workshops and playing a lead role in blog creation help to demonstrate the library's expertise, thus providing greater scope for collaboration with faculty in teaching and research projects. This helps to change the image of the librarian who is sometimes mistaken as a support staff. While librarians understand the relevance of the library, students and faculty may have to be persuaded that the library has the critical resources and expertise to help them attain their goals.

Community

Davenport and Beck state that being part of a community of users is a powerful aspect of stickiness. The library must be positioned to be an integral part of the learning community. Being a co-educator in the community involves the library not only partnering with faculty and students, but also learning from students and facilitating peer-assisted learning. Tilley calls this involvement 'Community Learning' (Tilley, 2011, p. 130).

In the library context Community involves binding the library and the user together through the co-creation of content and services. The popularity of social media tools such as blogs and Facebook, offer a wealth of opportunities for such collaboration. For instance, subject librarians from the HSS Library occasionally post blog articles on new books, e-resources and contemporary issues relating to their subject with the aim of promoting library resources. The comment feature in blogs allows for feedback from the community. Likewise, the NTU Library online catalogue has been enhanced with community features such as book reviews by users, social tags and listings of similar titles.

In particular, helping faculty to set up teaching blogs contributes to community learning as there is usually active class participation. This promotes 'learning to learn' and 'social learning' (Hargreaves, 2005) which is a key part of 21st century education.

Scholarly communication is another area in which the library is deeply involved. NTU Library has leveraged on the open-source DSpace software to build an open repository to disseminate content worldwide and a closed repository which is accessible only to the NTU community. The open repository DR-NTU contains work by faculty, while students' Final Year Projects and other works are housed in the closed repository. To showcase excellent papers written by students, HSS Library has worked with the HSS faculty to identify outstanding papers and placed them in the open repository under the category 'Outstanding Academic Papers by Students (OAPS)'. OAPS, a project supported by several university libraries, presents an exciting avenue for students to have their works showcased and enables the library to help integrate HSS students into a larger community of learning with other universities.

The library also seeks to understand faculty research needs and contribute to research projects. This has been undertaken in two extensive projects; the Singapore Poetry Archive (SPARK) project and the Myanmar temple project.

SPARK was initiated by a member of the English Literature faculty with the library taking on the role of a project manager to coordinate and offer the information organisation and archival expertise, IT framework and technical support. This website aims to provide a virtual space for the collection of primary and secondary resources related to the poetry and poetics of Singaporean writers and authors from the surrounding region. It is hoped that the site will stimulate and host new works particularly in the areas of multimedia poetry, extended critical writing on regional poetry and multilingual poetic activities.

The Myanmar temple project, is based on the work of a member of the history faculty. The faculty member has begun collaborative work with the HSS Library to build a virtual guide cum archive to an ancient temple complex in Myanmar. The library made use of the faculty member's research and the photos taken by her during a field trip to the temple, to create an online interactive guide. This project also acts as a digital repository of her work and would be shared with other users online.

The SPARK and Myanmar temple projects require various parties to co-create content and would stretch over a number of years, fostering a sense of joint-ownership and strengthening the Library-Faculty partnership.

Convenience

Ross and Sennyey (2008) write in their article 'The Library is Dead: Long Live the Library', that 'the OPAC has failed to evolve, and for today's users weaned on Yahoo and Google, the OPAC seems oddly out of place. It is difficult to search, its conventions are arcane and its technology dated' (Ross & Sennyey, 2008, p.148). This assessment is echoed by a CIBER study (Alvite and Barrionuevo, 2011) commissioned by the British Library, that states 'academic and research libraries offer a huge volume of valuable contents, but often through systems that sees less than intuitive than the ubiquitous search engines' (p.29).

The importance of convenience has been accentuated by previous studies conducted by NTU Library. To address this issue, the amount of library budget allocated to e-book, e-journals and databases has been increasing steadily over the years. Users have enjoyed having greater online and remote access to e-resources. Often these e-resources offer useful tools such as customised alerts, citation export and social bookmarking.

More recently, NTU Library has implemented the EBSCO Discovery Service (EDS) which NTU has named 'oneSearch. For new users, oneSearch is especially useful in that it searches across a variety of resource types simultaneously. However, it is unfortunate that the content coverage of all discovery service vendors, including EDS, is not comprehensive due to different licensing arrangements. Therefore students have to be reminded to use oneSearch as a first step in their research and then go to the old OPAC and individual databases to further their research.

One step NTU Library has taken to provide more seamless resource discovery, is to provide a link to library resources for users as they surf the web. Full text @NTU Library, is a library bookmarklet that can be downloaded to the user's toolbar to retrieve full text articles or e-books subscribed by NTU Library directly from the internet. By clicking on the bookmarklet, a user is directed through the NTU Library's ezproxy service and the resource is made accessible to the user after authentication. Last year a similar bookmarklet was developed for iPhone, iPad and MacBook users.

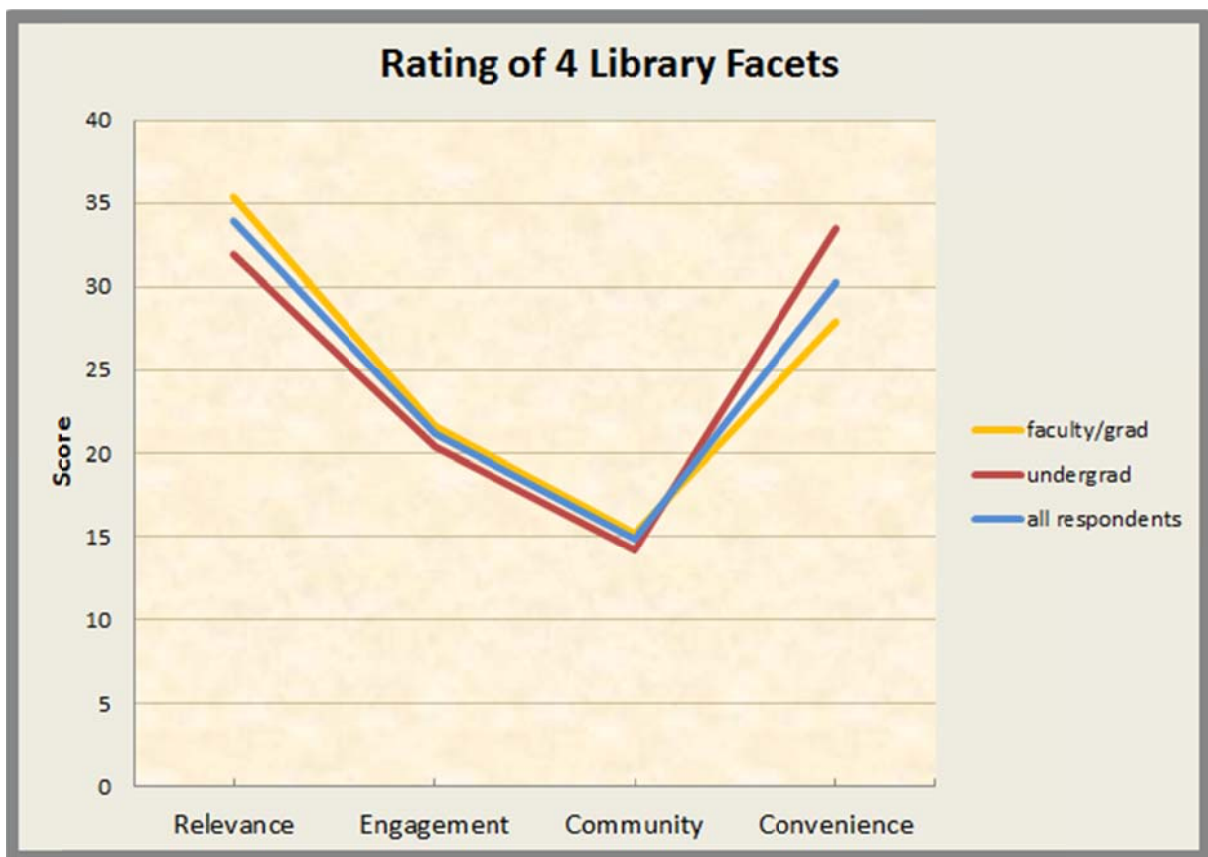
Singapore Telecoms (2012) reveals that Singapore has a mobile penetration of 150%, one of the highest worldwide. Out of 7.6 million mobile devices owned by users in Singapore, 5.8 million (74%) are 3G, offering internet access. Singapore Telecoms notes that there is an 'insatiable demand for mobile data' (Singapore Telecomms, 2012). To meet this increasing need, NTU has launched a campus wide web application which offers a range of services via smartphones, including mobile library services. Users can

read library announcements, search a mobile friendly library catalogue, consult an FAQ database and view a selective listing of new titles, e-resources and e-books, conveniently on-the-go.

Survey of Library Users

To examine the relative importance of the four factors, a survey was conducted at the Humanities & Social Sciences Library in April 2012 (Appendix A).

Faculty members, graduate students and undergraduates were randomly selected to complete the survey. Detailed explanation, illustrated with relevant examples, was given to ensure that the respondents understood and clearly distinguished the factors (facets) – Relevance, Engagement, Community and Convenience. Based on their perceived importance of the factors, they were asked to assign a value to each of the four factors, totalling up to 100 points. Staff was at hand to clarify doubts that arose. A total of 31 users participated in the survey. The proportion of undergraduates, graduate students and faculty completing the survey was 41.9%, 16.2 and 41.9% respectively.



Overall, the participants rated Relevance (mean=33.9, sd=) and Convenience (mean=30.3, sd=) much higher than Engagement (mean=21.1, sd=) and Community (mean=14.8, sd=).

For a more detailed analysis, the participants were divided into two main groups – the “Researchers” comprising the faculty and graduate students and the “Undergraduates”.

A t-test was carried out to evaluate the differences in means between the two user groups. The difference is statistically significant for the facet “Convenience” only ($p < 0.05$).

STATUS	RELEVANCE	ENGAGEMENT	COMMUNITY	CONVENIENCE
all respondents	33.87	20.90	14.77	30.47
faculty/grad	35.35	21.59	15.18	27.88
undergrad	31.92	20.00	14.23	33.85
difference	3.43	1.59	0.95	-5.96
t-test	0.34	0.52	0.55	0.04

Overall, the survey shows that Convenience and Relevance are most important to survey participants, followed significantly behind by Engagement and then Community.

Between the two groups of “Researchers” and “Undergraduates”, the relative importance of the four factors is largely similar, i.e. Convenience and Relevance are the most important, followed significantly behind by Engagement and then Community.

Beyond this similarity, however, there are several differences between the two groups that are insightful.

Firstly, the Researchers have valued Relevance, Engagement and Community slightly higher than the Undergraduates did, whereas Undergraduates have ranked Convenience higher than the Researchers did.

Secondly, Researchers have valued Relevance as the most important factor and significantly more important than Convenience. On the other hand, Undergraduates have valued Convenience as the most important factor and slightly more important than Relevance.

There is clearly a difference in user needs here.

These observations are not surprising. Being more specialised in their needs and being more mature, Researchers will value quality information relevant to their specialisation needs more highly than Convenience, and at the same time are also likely to value positive Engagement and Community more highly.

Undergraduates on the other hand, are less specialised in their learning needs. They are younger, belong to Gen Y and as such are used to obtaining information instantly and are also less likely to value Engagement and Community in their needs.

These differences, however, will only be transient, as today’s Undergraduates will become tomorrow’s Researchers and as the attention economy grows, the expectations for Convenience will only heighten. As the learning pedagogy evolves, the Undergraduates of the future are also likely to have a growing need for more specialised information. We should therefore expect Relevance and Convenience to feature equally high in future for both Undergraduates and Researchers. The low scores in both Engagement and Community, however, represent growth areas for the library to become more sticky in the future.

Conclusions for the HSS Library

Davenport and Beck's concept of attention economy has highlighted the urgent need for the library to play a more active and visible role in the campus. Going forward, the HSS Library will make use of the model and the survey insights to compete for the attention of our users in three priority areas.

Firstly, we will focus on how to better provide some levels of customised services to meet the specific needs of the Undergraduates and the Researchers. Secondly, we will ensure that Engagement remains positive, and thirdly, exploit the potential for creating greater stickiness by cultivating a sense of Community.

For Undergraduates, more must be done especially to improve Convenience, whereas for Researchers, the library must focus on how to improve the Relevance of its collection and services.

To improve Convenience for Undergraduates, more investment in online e-resources and mobile services would be necessary. Also there is a need to make resources easier to navigate. The launch of discovery services is a step in that direction.

To improve Relevance for Researchers, there is a need to focus on the Researchers' needs in terms of both content and services. This could be done by a closer monitoring of the quality of the collection in their areas of specialisation and in the subject librarian working to see how, using the model of the boutique library, the librarian can use personalization to uncover and target their individual needs.

Engagement is the next most important factor for all participants. The library will increase both the breadth and depth of our engagement efforts, such as through a wider variety of library orientations and workshops for students in general, as well as more in-depth and personalised workshops on research tools for the Researchers.

It is not surprising that hitherto, all participants have ranked Community as of the lowest importance. This is reflective of their perception that the library is performing a more traditional role in terms of providing useful resources (Relevance) in a quick and easily accessible way (Convenience).

According to Davenport and Beck's model, Community is the factor that the HSS Library needs to invest in the most to improve stickiness. If the library can become indispensable in the community of learning, then stickiness will increase and participants will begin to view this factor as important.

In building Community, co-creation is a key area that will be further developed. This requires active two-way interaction and exchange with faculty and students to co-create content and services in a community of learning. It will also involve seeking opportunities for co-teaching, as outlined by Tilley. It is clear that the library needs to be more present in the life of the community.

Evaluation of the Usefulness of the 'Stickiness' Model

The application of Davenport and Beck's model of stickiness has been useful in four ways; firstly, in its aim of creating stickiness, secondly, in providing a strategy to accomplish it, thirdly, in providing a framework to evaluate the library's current strengths and weaknesses, and lastly, to identify future areas of growth.

In addition, the model provides a simple framework that can be easily understood and applied. Employed correctly, it has the potential to change traditional mindsets with regards to the roles and usefulness of the library, and enable the library to have a stickier relationship with the users, thus strengthening the presence of the Library in the Attention Economy.

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Appendix A

Survey on 4 Facets of Library Services

Dear Users,

The library is conducting a survey to find out how you would rank various facets of the library's service. We would appreciate if you could spend 5 to 10 minutes to complete this short survey which comprises only four short questions. Please distribute 100 points among the 4 facets (see sample rating below). A high number would indicate that the facet is more important to you.

Please indicate

Your school _____

Your status (please circle) Faculty Graduate student Undergraduate student

Facets	Description of facets	Sample Rating	Your Rating
Relevance	The library provides a range of useful and up-to-date resources, such as print books, databases, journals and past-year examination papers, which helps you in your learning and research.	30	
Engagement	The library actively implements new initiatives such as subject librarians, online subject guides, posting of library resources in EdveNTUre, exhibitions and library instructional classes to keep users informed of library services and resources.	20	
Community	The library tries to foster a two-way dialogue and encourages users' participation through activities such organising freshmen teas, library blog and Facebook.	15	
Convenience	The library provides oneSearch (which searches across multiple databases simultaneously), book Paging, fulltext@NTU toolbar, inter-library loan service and mobile library to enable users to search and retrieve relevant information quickly.	35	
		100	100

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How can the library serve you better?

Thank you for completing the survey