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Laitinen, Markku Antero

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Net Promoter Score (NPS) as Indicator of Library Customers' Perception

Markku A. Laitinen

Planning Officer, National Library of Finland. Email: markku.laitinen@helsinki.fi

Abstract: The Net Promoter Score (NPS) used in the business to measure the customers' willingness to recommend the product, service or the enterprise as a whole to their friends or colleagues, introduced by Fred Reichheld in 2003, may for its part answer to the need of libraries to find easy and non-laborious methods of assessing the customers' experience. It may be targeted either the library as a whole or some critical services that are the most relevant to the library's main goals. However, information of the using NPS in public sector organizations is still imperfect. In this paper, the applicability of the NPS is tested with the material retrieved from the user surveys 2014-2016 of the Finna service of the National Library of Finland.

Keywords: Customer satisfaction, Impact assessment, Net Promoter Score (NPS), Libraries

1. Introduction

To meet the challenges of the present with relation to showing the result, impact and value of the library, the libraries have taken a more proactive role within their communities to collaborate with their stakeholders. This change of paradigm is seen as libraries' involvement in cultivating the planning in libraries from reactive and statistically oriented way towards a more proactive and multi-faceted analysis of their operations, that is seen, among others, as the developing of new indicators or testing methods not earlier used in library evaluation but are known in e.g. the business world.

The Net Promoter Score (NPS) introduced by Reichheld (2003) is used in the business to measure the customers' willingness to recommend the product, service or the enterprise as a whole to their friends or colleagues (Fig. 1). In the business, the NPS is challenging the other, "traditional-style" and better-known and more appreciated ways of measuring such as with the American Customer Satisfaction Index (ACSI) derived by Fornell et al. (1996) from the Swedish Customer Satisfaction Barometer (SCSB) introduced by Fornell (1992). In Europe, the EPSI (European Performance Satisfaction Index) rating model for Customer Satisfaction Index (CSI) formulated by ECSI Technical Committee, The pan-European customer satisfaction index programme was introduced in the fold of the millennium (Cassel & Eklöf 2001, Eklöf & Westlund 1998, 2002).

Reichheld (2003) claims that other indicators are complex and in that way practically useless, whereas the NPS consists of one question only, that is simple and gives the organizations timely data (Reichheld 2003). ACSI on the other hand measures perceived quality, customer expectations and perceived value (Fornell et al. 1996). Soon after its introduction, the idea of NPS provoked a plenty of criticism (Keiningham et al. 2008, Kristensen & Eskildsen 2011) but in spite of criticism, the NPS also has its supporters.

Information of the using NPS in public sector organizations seems very imperfect. Múčka (2014) assumed the idea of NPS to be applicable in the public administration, too. In the library world, the NPS was earlier tested in the National Library of Estonia that was probably the first library reported of its use (Välbe 2015, 2016).

The idea of NPS will probably be adopted in the new International Standard ISO 21248 (Information and documentation — Quality assessment for national libraries) being under construction in the International

Organization for Standardization (ISO). The document is on Committee Draft stage. According to Vålbe (2015) it is, too, in consideration for the International Standard ISO 11620 (Library performance indicators) being revised by ISO.

Fig. 1 Illustration of the idea of Net Promoter Score (NPS) as described by Reichheld (2003). The customers are grouped to "promoters" (rating 9 or 10), "passively satisfied" (rating 7 or 8), and "detractors" (rating 0 to 6). NPS is percentage on range -100% to + 100%. $NPS = P - D$, where P = Percentage of promoters, D = Percentage of detractors.

In this paper, the applicability of the Net Promoter Score (NPS) is tested with the material retrieved from the user surveys 2014-2016 of the Finna service of the National Library of Finland.

2. Background and idea of new measuring in libraries

The idea of finding new methods for evaluating the library operations is supported by the International Standard ISO 16439 (Information and documentation. Methods and procedures for assessing the impact of libraries) that encourages the libraries to develop and test methods for identifying and providing their benefits to users and society.

Because the assessment of library's impact is perceived laborious and in the libraries, there may also be lack of know-how, the standard ISO 16439 advice the libraries to reduce the work load by limiting the impact assessment to critical issues, e.g. services that are the most relevant to the library's main goals (ISO 16439:2014(E);4.6.3). The ISO 16439 names three critical areas – the impact of the library collection, the impact of the library as a place and impact on users' success – where the libraries might identify and demonstrate their impact (ISO 16439:2014(E);9.2.1). These three critical areas can be seen to include whole the operation space of the library.

In the standard ISO 16439, solicited evidence concerning the impact and value of library is introduced (ISO 16439:2014(E);7). Solicited evidence obtained from the patrons through surveys is considered use of the best real-time information available about the customers' perceptions.

In the spirit of the above-mentioned need to find easy and non-laborious methods of impact assessment by limiting to the critical issues and to include the patrons' perceptions about whole the operation space of

the library, in the user surveys, one simple self-assessment question measuring the use the patron got, should be included.

The value of library as defined in the standard ISO 16439 (3.75; 4.2) is seen as importance that stakeholders (funding institutions, politicians, the public, users, staff) attach to libraries and which is related to the perception of actual or potential benefit. From the library users' point, the value of the library is naturally measured by the actual or perceived benefit the users get as result of using the library services.

The library professionals have got used to considering the value of the library as self-evident. Yet, the library has competitors to an increasing extent. The users are increasingly independent in their information seeking practices and they seem to find free information on the web, irrespective of the library.

So, the benefits gained from library services may be questioned not only by funding institutions but also by the public. In the conditions of tightening economic climate, there has been a growing demand for non-profit organizations like the libraries to show proof of their value for individuals, for their parent organizations and for society.

Fig. 2 The dimensions of the impact of library.

The dimensions of the impact of library comprise the parent organization of the library, the users and in the wider significance the society (Fig. 2). The impact may be concrete and measurable as new skills of e.g. information retrieval, but what is in the deeper significance meant by impact as defined in the standard ISO 16439, it is more abstract and more difficult to measure. The ISO 16439 refers to changes that are for the most part indirect and intangible, and therefore difficult to identify and to quantify. Here, by impact is meant more general changes in an individual, a group or community: increase in knowledge, changes in attitudes, values and/or behavior (ISO 16439:2014(E);4).

Taking into account the abstractness of the concept "impact", it seems challenging to find an easy and non-laborious tool for measuring the impact of library. So, the International Standard ISO 11620:2014(E) (Library performance indicators) does not include indicators for assessing the impact of library services either on individuals, the communities that libraries serve, or on society – the easy to use indicators for measuring the impact of library simply doesn't exist.

Thus, in the spirit of the idea of categorizing the qualitative data into classes that may be assigned numeric values (ISO 16439:2014(E);5.6.3) and utilizing the information about user satisfaction as a mean to identify the services that may have affected the skills, competences, behavior or opinions of the users (ISO 16439:2014(E);6.4.3), there is a reasonable cause for testing a new type of indicator such as NPS.

3. Finna service – the new generation pathway

Finna (<https://finna.fi/?lng=en-gb>) is the end-user interface for the National Digital Library of Finland, representing a change compared to traditional online service design patterns used in cultural heritage organizations. Finna is part of the National Digital Library (NDL) project of the Ministry of Education and Culture of Finland (<http://www.kdk.fi/en/information-on-the-project>).

The Finna pathway (Fig. 3) breaks the traditional links between the user and the service, and the service and the collection (e.g. OPAC) by combining the collections of the organization with the collections from other organizations and from other sectors of the cultural heritage organizations.

Fig. 3 The Finna service of the National Library of Finland is more than a portal: it is a pathway to all collections of the cultural heritage organizations of Finland.

Hence, using the Finna service, the metadata from many cultural heritage organizations is combined, and the users may not even note that the information on their screens comes from a library or other collections of cultural heritage organizations.

Therefore, what matters, is how the service as a whole, not single organization, satisfies the users' needs. This means also that some of the traditional ways of measuring (e.g. number of search hits) do not apply but new ways to assess the results of operations and the additional value the patrons get are needed.

4. Method

Since its inauguration in 2013, altogether three surveys targeted to the users of Finna service were made, in the years 2014, 2015 and 2016. Each year, the survey was made with Surveypal inquiry software through the Internet. The link to the survey was given to the Finna users as a pop-up window.

For this disquisition, following survey questions were posed:

1. How high is the willingness to recommend the Finna service?
2. How high a grade do the users give to Finna service?
3. Does the time series of grading the service in earlier years apply to retrospective counting of NPS?

The survey questions in the form they were asked the respondents are shown in Table 1. The answers to the rest of more than 30 questions will be analyzed separately. Also, the reasons for high or low score given by the users and what information they give to the basis of further development of the service will be analyzed in a separate study. For this purpose, the questions “You can write more comments and present your ideas for development here” (2014, 2015, 2016) and “What changes in Finna would make you to give it a higher rating?” (2016) were also included in the survey.

For counting the NPS, only the total of respondents was of interest in this survey, so all the respondents were handled as one group without grouping them by their background.

Table 1 The questions analyzed for this article in Finna user surveys 2014-2016.

Question	Asked in the year(s)
On a scale of 0-10, how would you grade Finna (0 is the lowest grade and 10 the highest)?	2014, 2015, 2016
How likely is it that you would recommend Finna to a friend or colleague? [The scale of 0-10 with 0 indicating the lowest likelihood and 10 the highest, was shown separately in the menu]	2016

Compilation of the results of the surveys was outsourced to external companies that compiled the trend reports. Because the trend reports are just compilations of answers with no exact analysis, for this article, the author collected the answers to the questions concerning the grades given to Finna by the respondents and their willingness to recommend the service from the original material by importing the material from Surveypal database to Microsoft Excel for counting and drawing graphics.

On the basis of the answers to the question concerning the grading the users give to Finna service, the grades were grouped on the same scale used counting the NPS to make it feasible to compare the results of grading and willingness to recommend in the year 2016 when both of these topics were asked. The means of grades were counted as weighted arithmetic means each year respectively.

In 2016, it was for the first time asked the question used for counting the NPS. For answering the question “How likely is it that you would recommend Finna to a friend or colleague?” the respondents were given the scale 0 to 10 with 0 indicating “not at all likely” and 10 indicating “extremely likely”.

Following the method of Reichheld (2003), the respondents were grouped to “promoters” (rating 9 or 10), “passively satisfied” (rating 7 or 8), and “detractors” (rating 0 to 6).

The NPS was counted with the following formula introduced by Reichheld (2003): $NPS = P - D$, where P = Percentage of promoters, D = Percentage of detractors.

In addition to the above mentioned, since in 2016 both the grading and willingness to recommend Finna service were asked, the difference of answers to the questions concerning the willingness to recommend and the grade given to Finna service was analyzed to test if the NPS could be estimated in retrospect on the basis of the question concerned grading of Finna. Distributions of grading and willingness to recommend Finna were compared with two-tailed T-test.

5. Results

The three annual Finna user surveys performed since the service was launched in 2013, produced almost 30,000 responses altogether during the time series of three years, reaching over 60 % response rate each year. The number of respondents was 3,239 in 2014, 12,159 in 2015 and 14,520 in 2016. The response rates on the survey as a whole and the survey questions analyzed here are shown in Table 2.

Table 2 Response rates to the survey as a whole and to the survey questions.

	The survey as a whole			"On a scale of 0-10, how would you Grade Finna?"			"How likely is it that you would recommend Finna to a friend or colleague?"
	2014	2015	2016	2014	2015	2016	2016
Seen	5 367	18 656	22 562	3 239	12 159	14 520	14 520
Answered	3 239	12 159	14 520	3 186	11 919	14 520	14 478
Response rate	60.4 %	65.2 %	64.4 %	98.4 %	98.0 %	100.0 %	99.7 %

The question concerning the grading of Finna ("On a scale of 0-10, how would you grade Finna?") was asked each year (Table 2). The response rate to the question was 98.4% in 2014, 98.0% in 2015 and full 100.0% in 2016. Also, the respondents gave a relatively high rating to Finna, on the average 7.9 in 2014 and 8.0 in 2015 and 2016. The distribution of grades on scale 0-10 and the weighted arithmetic means according to the years of surveys are shown in Fig. 4.

The respondents to the question "How likely is it that you would recommend Finna to a friend or colleague?" were grouped to "promoters" (rating 9 or 10; 6 259 respondents), "passively satisfied" (rating 7 or 8; 6 294 respondents), and "detractors" (rating 0 to 6; 1 925 respondents). Fig. 5.

The comparison of the grading and willingness to recommend Finna service in 2016 showed a statistically significant difference ($p=0.0154^*$) at the highest grades (Fig. 6, Table 3).

Fig. 4 Distribution of answers to the question "On a scale of 0-10, how would you grade Finna (0 is the lowest grade and 10 the highest)?" and the means of grades.

Fig. 5 Distribution and numbers of answers to the question "How likely is it that you would recommend Finna to a friend or colleague?" and the NPS value. The scale of 0-10 with 0 indicating the lowest likelihood and 10 the highest, was shown separately in the menu. The respondents were grouped to "promoters" (rating 9 or 10), "passively satisfied" (rating 7 or 8), and "detractors" (rating 0 to 6).

Fig. 6 When asked on scale from 9 to 10, both “How would you grade Finna” and “How likely is it that you would recommend Finna”, the grading and willingness to recommend seem to differ at the highest grades ($p=0.0154^*$). The weighted arithmetic means for both grading and willingness to recommend were 8.0.

Table 3 The differences of answers to the questions concerning the willingness to recommend and the grade given to Finna service was analyzed to test if the NPS could be estimated in retrospect on the basis of the question concerned grading of Finna. The grading and willingness to recommend seem to differ at the highest grades (group of the promoters).

T-test (two-tailed), group	p value	Significance
All	0.475044	Not statistically significant
Detractors	0.110037	Not statistically significant
Passives	0.270919	Not statistically significant
Promoters	0.015356	* (5% risk level)

6. Discussion

Results from the survey question concerning the grading of Finna on a scale 0 to 10 seems to indicate high satisfaction (7.9-8.0 on scale 0-10) with Finna service. The high satisfaction degree seems to be reflected in the willingness to recommend, showing the NPS for Finna survey as high as 29.9 %. Since in the libraries, there is no much experience of using NPS, it is still unclear what level of NPS should be considered “good enough”.

However, as suggestive information, the information from earlier user surveys of Finnish libraries, the patrons seem to be highly satisfied with the library services. In a comprehensive user study made in Finnish libraries in 2013, the users were asked to take a stand on the claim “As a whole, the library services function well” on a five-step Likert scale. The patrons of the libraries of higher education institutions (the universities and universities of applied sciences) graded the functionality of library services as a whole as

4.3 (17,069 respondents) and the patrons of public libraries as 4.5 (15,233 respondents) respectively. (Original material of the National user survey of Finnish libraries 2013 analyzed by the author).

The result of same level, 4.3 (12,170 respondents) was reached in the user survey 2017 made by the AMKIT Consortium that coordinates cooperation among the Universities of Applied Sciences (UAS) libraries in Finland. In this survey, the aggregated NPS total of UAS in Finland was 62.7% (12,572 respondents) (AMKIT user survey 2017), again indicating very high user satisfaction.

So, how good is good? Vålbe (2017, personal communication 3 Feb, 2017) stated that in the National Library of Estonia, the goal of NPS in 2016 was set 65.5% (64% came true) for new customers. Reichheld (2006a), having studied business, states that NPS of the best companies is above 50%, whereas the worse values are negative, the typical company lying between 5% and 10%.

On the basis of the above mentioned library studies, it seems that the willingness to recommend the library services in Finland is generally close to the higher levels of business, which however does not exclude the fact that in the individual services the level could be lower. Because there is no time series of NPS in libraries yet, a trend analysis of developing the attitudes to willingness to recommend the services cannot be done.

Though the diagrams showing the distribution of grading and willingness to recommend Finna on eleven-step Likert scale (0 to 10) look converging (Fig. 6), the comparison of the grading and willingness to recommend Finna service showed a statistically significant difference ($p=0.0154^*$) at the highest grades in 2016 (Fig. 6, Table 3), denoting that the NPS cannot be estimated in retrospect on the basis of the question concerned grading of Finna, whether these two questions would be understood by the respondents the same way or not.

The numbers of respondents to the survey were relatively high in 2015 and 2016, but the low number of those seen the survey and the number of respondents in 2014 was probably due to the low brand recognition of Finna soon after launching the service.

Though the NPS has encountered criticism, e.g. by Keiningham et al. (2008) with insufficient statistical reasoning, basing on Reichheld's (2003) claim that the leaders want rather quantification of the "common sense" idea of getting more customer promoters and fewer detractors accelerates growth, instead of using advanced statistical methods (Reichheld 2006b). The justification for the NPS is according to Reichheld (2003) based on the market research and thus the NPS is more objective.

It is another question how suitable the NPS is for libraries or for other cultural heritage organizations. However, also the libraries have their competitors, e.g. other cultural services and other use of the leisure or other sources of free information, not to mention the fact that the libraries compete for finances with other cultural heritage organizations. However, as it applies with any indicator, one must know its restrictions and they must be taken into account.

The librarians are timely "accused" of excessive carefulness and the lack of the unprejudiced attitude being "original sins" of the library people. Vålbe (2016) claims that the libraries shall not be afraid of using more business-like measures in order to better their performance and strengthen their impact, thus encouraging the library professionals to test new ideas for assessment.

Also, the fact that many surveys are laborious compared with the simplicity of the NPS that consists of one question only with the additional question "why" recommended by Vålbe (2015, 2016) speaks in favor of using the NPS to get more experience of its applicability in library world. The need for follow-up question to find the reasons for customers' feelings and the need to learn how to turn the passively satisfied customers into promoters is paid attention also by Reichheld (2003).

The experiences using the NPS thus far are from the science libraries only, so it would be important to gather experiences from public libraries, too.

Nevertheless, basing on the good results from the National Library of Estonia, the NPS is proposed to be incorporated in the International Standard ISO 11620 (Library performance indicators) as a quality indicator indicating user satisfaction (Välbe 2015), as well as in the new International Standard ISO 21248 (Information and documentation — Quality assessment for national libraries) being under construction in the International Organization for Standardization (ISO).

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