

Rapid Service Metrics Improvement Using Collaborative Experience Modelling Techniques

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Abstract: If libraries are going to provide optimal service they must be able to measure the value of the services they provide, so that they may make the business case for what they do. This will enable them to obtain funding, gain administrative support, and increase usage and user satisfaction. The responses from an easy-to-use survey can be analyzed statistically to determine patterns of need and use, or experience models. These models can be implemented using special techniques that bridge the gap between testing and real-world patron experience. They can be verified empirically, and then used to rapidly create new programs with improved usage, funding, goal-attainment, and customer satisfaction metrics.

Keywords: qualitative measurement, quantitative measurement, service quality, surveys, statistics, and new programs.

1. Introduction

Here's how to start the evaluation of the quality of your library services: Go stand in the parking lot. If you see a sign that says 'Library', then you are off to a good start. If not, read on...

Libraries need metrics to support their programs. Library service has historically been hard to measure because libraries have the properties of being 'states of place' (living environments) and 'where the rubber hits the road' (the intersection between analog and non-analog factors) These factors have led to gaps between data, values, and trends that can be used (Iverson 2008).

The fields of discount usability engineering stress that fast, low-budget service testing can be effective in discovering the key user problems (Nielsen 2000). When surveys are the basis of planning, however, there is a risk that by the time the survey results are compiled, and a solution implemented, the context may have changed drastically, resulting in a built-in characteristic of being behind the curve of usefulness. Agile development processes stress as their benefit the ability to deliver results in related situations (Matheny 2008). An additional problem is that raw service quality data does not specify a solution because it lacks a design and development context.

Survey-taking may be ill-served by technology to the extent that in-person discussion is required. In particular, it is invaluable for the administrators of library service to discuss in-person user attitudes, because it produces data in a context useful for designing a solution.

This paper will describe how to make rapid service improvements in libraries based on quality of service evaluation and user experience design techniques.

It may be that most libraries can find most service problems using the techniques described here, and design service improvements quickly using existing resources. Once new services are built, more extensive evaluation, and more sophisticated programs, using the same techniques, can be undertaken as needed.

2. Input

Input is crucial. The approaches listed below are intended to minimize the 'fuzziness', or inherent ambiguity/subjectivness, of traditional service survey approaches.

Service quality data should be useful and collected in a way that maximizes both quantity and detail (Hassol 2008). If most patrons refuse to fill out the form, problems of sampling are introduced (Ngulube 2005). Patrons should be shocked at how simple the form is to fill out, which will guarantee that they do fill it out. Therefore, a one-page survey of key questions is best for this purpose.

The best location for survey-taking is on the site where the services are used, at the time they are used. Most surveys have the ‘subway problem’, in which subway riders angry at delays are polled at the wrong place or the wrong time; those willing to spend yet more time doing paperwork for the benefit of subway management will be effectively nil unless they are ‘subway buffs’ (a fact well-known to subway administrators).

This author has recently participated in surveys which are skewed in laughable ways: being greeted by a uniquely friendly bus driver and then immediately approached by a surveyor who asked if the driver had been friendly that day; and offered survey of customer ability to get through to telephone help that could only be filled out once the customer got through to telephone help (I never got through).

If the survey is mandatory the response rate will be high. A ‘friendly forced’ method of handing out surveys also works well, in which a member of the patron population (e.g., a student) hands out the surveys and asks patrons to complete them, including at times when problems are likely, and comes back in three minutes to collect them in a basket. This can be tough medicine for library staff, but the more problems you are aware of, the more you can fix, and the easier it is to measure progress at the end of the day.

Alternatively, an electronic survey built around the same principles can be used, provided it is accessed in a library context (as part of the library Web site or tied to the library’s physical location).

3. Processing

Survey responses should be broken down into a taxonomy as needed and given numbers to indicate frequency. Open-ended answers remove repetitive clutter from the survey form and give users the chance to right down ‘the real problem’. The real problem is the only thing that matters in this context. This means that user responses may have to be tagged into a taxonomy of types ‘after the fact’, which takes additional time, but does kick off the beginning of the solution design process, as library staff begin to make sense of data. In this author’s experience, it is not difficult for one person to tag 100 such responses in one hour.

There are various ways to process feedback using statistical software. This author used a technique several years ago that included breaking survey responses down into taxonomies of ‘ranges’ and given numbers indicating locations in a ‘spectrum’. For example, survey questions pertaining to patron preferences for resource type may be given range numbers from 1-10 based on their position in the range from ‘low-tech’ to ‘high-tech’. This has since been shown to be a valid approach (Huang 2008).

Depending on the library in question, and the structure of the survey, this option can be used as needed for the conversion of ambiguous or subjective survey data into forms that can be processed by statistical software, and used in meaningful ways. A k-means distribution, or other approach, can then be used to determine patron experience types or ‘market sectors’, their characteristics, and their attendant pro and con experiences vis-à-vis library service.

4. Output

To verify the results, key findings can be placed on a poster near the library door. For example, the top five pros and cons of the library user experience could be listed. Patrons can use handy markers to add their ‘hash mark’ to a category (Morton 2000). In the next step, a promotional bulletin should be distributed to patrons indicating immediate or imminent solutions or workarounds to the identified user needs, and as these are handed out, users should be engaged in discussions about how the library can better serve their needs.

Note that these survey approaches are different, in that they take a somewhat sceptical view of the accuracy of surveying and measuring in general. They depend on iteration and reinforcement in order to build a model of the library user experience.

5. Rapid Service Improvement Examples

(Based in part on the author’s experience as a librarian and information architect).

Service Survey Result	Quick Solution	Experience Model
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<p>Biology resources are scarce. They are expensive. User satisfaction is the lowest.</p>	<p>Handing out survey results elicits positive feedback and a dialog is begun with those who had been suffering in silence, and is the 'toughest customer'. A discussion is started with these patrons regarding available resources. A new network of potential library supporters is created.</p>	<p>A new outreach program for Biology was created using interlibrary loan, an online research aid, and a proposal for new funding, with some monies coming out of resources that had been used to purchase books that were never read.</p>
<p>Too few computers are available during certain hours.</p>	<p>Additional computers were already available in a little-known location.</p>	<p>This was the number one complaint, but frustrated patrons did not tell library staff of this issue; therefore, staff did not think to resolve it, and were embarrassed to find this out. A taped-up paper sign fixed the issue right away, and students stampeded to the new location.</p>
<p>Students working in some subject areas have distinct characteristics in terms of type of resource, context, life stage, and activities.</p>	<p>Library instructors were advised of this profiling, so that classes became 'action-based' depending on what the students typically do when at the library, dramatically increasing the adoption rate of instructional services.</p>	<p>This model can be the basis for a new approach to academic library program design. For example, a tutorial can be designed that fits with identified user profiles (e.g.: uses computer at library for quick look-ups, does most in-depth work at home, moderate level of interest in computers). These profiles are make-or-break: obviously a children's program would not be the same as the yuppies' program, etc.</p>
<p>Many patrons appeared to have trouble finding the library. It could be inferred that most students at the University did not know of the (branch) library's existence. There was no library signage that could be seen from outside the building.</p>	<p>None of the staff were aware of these facts. Most people involved with libraries and signs had to be convinced that this was an issue ('I'm not in the sign-making business').</p> <p>Signage was improved.</p> <p>The library was included in subsequent new-student orientations.</p> <p>Usage increased dramatically with no other staff effort, and these numbers were presented to the President, who responded very favourably and increased the library's budget.</p>	<p>Almost all of the patrons used the library because they had heard about it through a friend, or because they happened to notice it while walking by. The University did not make the existence of the library clear. Therefore it is likely that the biggest source of potential new library users could be drawn from those who simply were never aware of its existence. This type of 'negative event' is critical but hard to glean from most surveys.</p>
<p>Students very much liked the library as meeting place, as a place to stay during extended breaks</p>	<p>Facilities, desks, and help aids were configured to be usable for students with these characteristics.</p>	<p>The vast majority of users of the library use it in ways very different from those formalized in</p>

<p>between classes, and a place to multitask when they are not sure how much time they will have to spend. There is a high return rate among users, who do not mind paying more as a library fee added to tuition, because they see what they are getting.</p>		<p>traditional library service programs. An optimal service program would be tested to have a high congruence between frequent actual effective use and library program design.</p>
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6. Conclusions

These are somewhat primitive experience models but are the first step in a process that can be used to create models for more sophisticated library programs. It is possible to derive useful library service quality data relatively quickly if a modest amount of novelty in approach can be tolerated. Data should be tested into models of experience that can be implemented (via the ‘management by walking around’ techniques described above). This data can then be used to create experience models for improving the library’s user experience and for increasing support. These models can often be rapidly implemented because the audience and needs already exist, and because existing resources can often be redeployed to the greatest marginal benefit.

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