**Błażej Feret,**
**Are Our Union Catalogs Satisfying Users' Needs?**


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# Table of Contents

Part 4  Hungarian Union Catalogs

Part 5  Baltic Union Catalogs

## Part 6  South African Union Catalogs

# Chapter 11
# Are Our Union Catalogs Satisfying Users' Needs?

## Thoughts on the Evaluation of Union Catalog Projects

Błażej Feret

User satisfaction may or may not be directly related
to the performance of the library on a specific occasion.
– K. Elliott

## 1    Introduction

Planning the present paper, I thought that I would be able to survey user needs and satisfaction concerning union catalogs in different countries under the umbrella of The Andrew W. Mellon Foundation. The principal reason for thinking that such a survey would be desirable was the conflict between two separate union catalog groups in Poland with respect to the philosophy and rules and the extent to which the catalogs would be available to as many libraries as possible.[1] It was very tempting to determine whether the Polish union catalog NUKat, in its ultimately agreed shape, was meeting user needs and satisfying them, and to compare it with other union catalogs. However, this task proved to be very complicated. How can one measure user satisfaction? How could one find out what users need? The literature provides examples of user satisfaction surveys

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[1]  Richard E. Quandt, *The Changing Landscape in Eastern Europe: Personal Reflections on Philanthropy and Technology Transfer* (New York: Oxford University Press, 2002): 244–247.

concerning both general and particular library services.[2] In most surveys, authors ask users to indicate their satisfaction level on a closed, 3-5 point scale, e.g. "very satisfied", "satisfied", "not satisfied".[3] This approach works very well for long-established library services and for users with a high level of awareness of the library services in question. For projects that are relatively new, such as union catalogs in post-Communist countries, the problem is not so simple. These projects started only a few years ago, and some are still in their initial phase. In many cases, the declared goals have not yet been achieved. The term 'user satisfaction' usually describes the effects of the project after it has been completed. But can we also talk about satisfying users' needs or meeting users' expectations at the time that the union catalog is designed? Should the reference time be 'now' for all projects? Or perhaps the project goals could be assessed in terms of user satisfaction as early as the time a union catalog is designed? Or perhaps it is simply too early in transitional countries for research on user satisfaction concerning union catalogs?

Another question is: who are 'the users' to be surveyed? Are they librarians or non-librarians? The two groups will certainly have different expectations concerning the project (in all phases), and would therefore express different levels of satisfaction. How can one find out whether there exists a need for some particular function in a union catalog if users have never used a union catalog before?

Due to all these uncertainties, I deferred carrying out a survey for the time being, and instead I decided to discuss some general problems related to the evaluation of project results. In this paper, I try to identify several methods for assessing the results of union catalog projects. I discuss whether user satisfaction alone can be a basis for comparing union catalog projects, and I propose several indicators that could be used to compare, in a quantitative way, different union catalog projects. Many of these

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[2] See Association of Research Libraries websites:

http://www.arl.org/libqual/pubs/index.html, and Rowena Cullen, "Perspectives on User Satisfaction Surveys." Library Trends 49/4 (Spring 2001): 662–686.

[3] Steve Hiller, "Assessing User Needs, Satisfaction, and Library Performance at the University of Washington Libraries," *Library Trends* 49/4 (Spring 2001): 605–625.

considerations could, of course, be applied to all kinds of projects, and not only library and union catalog projects.

The main purpose of this paper is to turn the attention of the designers and coordinators of union catalog projects to the complex problems of user satisfaction and establishing measurable indicators of union catalog performance and success. The paper should be treated as a starting-point for broad discussions of the problem of assessing the results of union catalog projects with respect to user needs and satisfaction, and by no means pretends to be complete and comprehensive.

## 2   Elements of Project Evaluation

When starting a new union catalog project, the designers and project coordinators usually define its goals and the methods for achieving them in the most efficient way. They create the organizational and technical structures for the stipulated tasks, and design the timeframe for the subsequent steps. But complex projects involving many libraries, such as union catalog projects, especially in East European countries where it is very difficult to find permanent sources for financing such projects, are seldom concerned about the future results of the project in terms of user needs and satisfaction. Responsible authorities usually concentrate on launching the project as soon as possible after the funds have become available, and nobody cares about making time-consuming, and sometimes expensive, surveys of users' needs prior to defining the project goals and the project methodology. Decisions about the model, purposes, and functioning of the future union catalog are taken in small groups of project initiators and coordinators, sometimes after consultations with a few chosen librarians. How, then, is it possible to assess the project results? What actions can be undertaken to check whether the project has been a success? How can one evaluate the project and compare it with another, similar one?

There are several expressions, closely interconnected with one another, which come to mind on such occasions: project success, user satisfaction, service quality, performance indicators. Each of these terms may be the basis for considering further the assessment of union catalog project results.

User satisfaction is considered to be one of the performance indicators for a particular service. Most customer services are constantly trying to maximize the value of 'user satisfaction' indicators because it is the principal precondition for satisfying the market. But the term 'user satisfaction,' which appears to be obvious and understandable, rapidly reveals its complexity. The definition formulated on the basis of marketing considerations[4] is the following: 'user satisfaction' "is the emotional reaction to a specific transaction or service encounter." Moreover, apart from an emotional element, satisfaction also contains a cognitive element.[5] User satisfaction derived from a single transaction is determined by many different factors, including service quality, the user's past experience with the service provider, the emotional state of the user, etc. There is a close relation between user satisfaction and user needs. Users' needs are in turn shaped by historic, socio-economic, cultural and professional factors. Users in different countries, or even different user groups in the same library, may have different needs and expectations, and therefore different level of satisfaction from the same service. Because of this relative perception of satisfaction, projects that aim at providing library services such as a union catalog, and for which the measure of success is user satisfaction, should always target well-defined groups of users. The expectations of students regarding the union catalog will be completely different from the needs of librarians. Projects that would satisfy librarians would not necessarily satisfy students or researchers in our universities. Similarly, the model of a Polish union catalog might not satisfy users in South Africa, though it might satisfy Polish users' needs.

Unfortunately, there is little knowledge among union catalog designers about the concept of user satisfaction and its relation to a variety of factors including user needs or library service quality. It is commonsense,

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[4] P. Hernon and E. Altman, *Service Quality in Academic Libraries* (Norwood, NJ: Ablex, 1996).

[5] A. Falkowski, Professor of Marketing Psychology, University of Łódż, Poland; private communication.

confirmed by scientific research,[6] that the better the quality of service, the higher the user satisfaction. At the same time, the term 'quality' does not need to be sharply defined. In the SERVQUAL model used by Hernon and Altman[7] and in the work of other researchers examining service quality in the field of library and information services, quality is defined as 'perceived quality' rather than 'objective quality'. That is, it is dependent on the customers' perception of what they can expect from a service and what they believe they have received, rather than on any 'objective' standard as determined by a professional group or in conventional performance measurement.[8] The SERVQUAL model permitted the definition of the gaps between customer expectations and perceptions as follows:

1. The discrepancy between customers' expectations and management's perception of these expectations;

2. The discrepancy between management's perception of customers' expectations and service quality expectations;

3. The discrepancy between service quality specifications and actual service delivery;

4. The discrepancy between actual service delivery and what is communicated to customers about it; and

5. The discrepancy between customers' expected service and perception of service delivered.

Research on the boundaries of library information, psychology, and management also proved that user satisfaction may involve long-term as well as short-term perceptions, and a personal reaction to service built up over a number of transactions and experiences of varying quality.[9]

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[6] K. Elliott, "A comparison of alternative measures of service quality," *Journal of Customer Service in Marketing and Management*, Vol. 1 (1) (1995): 35.

[7] Hernon and Altman.

[8] Cullen.

[9] Hiller.

Should the highest level of user satisfaction also be a goal for library services, including union catalogs? According to Cullen and other researchers, definitely yes! As Cullen states,

> Retaining and growing their [libraries'] customer base and focusing more energy on meeting their customers' expectations is the only way for academic libraries to survive in this volatile competitive environment.

Therefore, even though it may already be very late for some union catalog projects in East European countries, I would strongly suggest that surveys on users' expectations and needs concerning the union catalog should be prepared and carried out. Perhaps there is still time to amend or correct already decided models and schemes of cooperation.[10]

The variety of factors influencing actual or average users' satisfaction and their user dependence are reasons for the fact that measuring user satisfaction is mostly accomplished with direct questions about users' feelings. Questionnaires are applied to different user groups of a specific service[11]. Results of such user satisfaction surveys can only tell us how much a specific group of users is satisfied with a specific service. Could such results be a yardstick for comparing different projects? In terms of users' satisfaction with the project, the answer is yes, but in terms of objective performance and success indicators probably not. In the case of different union catalog projects, it is almost impossible to compare projects on the basis of user satisfaction alone, even if it were measured, because a higher level of user satisfaction from project A than from project B would not prove that project A was better, showed better service quality, was more cost effective or was used more than project B. What it would show, however, is that users of project A like the services of A more than users of project B like the services of B. Besides, one must be very careful when

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[10] For example, in the Polish NUKat project, the strong focus on authority control was not counterweighed by user expectation surveys, or even by broad consultations with academic librarians across the country.

[11] In marketing, these 'user groups' with different attitudes towards the service or product are called 'consumers in different market segments.'

using the results of user satisfaction surveys to estimate the success of any project, because by definition these surveys are directed at the actual beneficiaries of the project and tell us nothing about the feelings of those who could or should benefit but for some reason did not. Therefore, in the case of union catalog projects, it is very important to implement user expectation surveys as widely as possible among the potential users of the catalog, and not only among the narrow group of initiators or actual beneficiaries of the project.

Despite its limited use for comparing different union catalog projects, it is still worthwhile to prepare surveys of user satisfaction, either separately by each project management or—and this would certainly exhibit good will toward international cooperation—by an international group consisting of representatives of the relevant projects, in order to ensure the homogeneity of research across different projects. The results could be used for assessing the results of individual projects and their evolution in time. The work, however, needs careful planning, and should involve not only librarians but also specialists in marketing and psychology, to ensure proper quality and methodology.

If user satisfaction is not a satisfactory indicator for project evaluation, what are the other choices? It seems worthwhile to examine whether project success might be a basis for setting up comparable indicators for the evaluation of different union catalog projects.

## 3   Project Success

A union catalog (like any other new library service), its quality and subsequent use are outcomes of the successful implementation of the project. The traditional success criteria for project implementation are based on whether the project was completed according to specifications, within the budget and in time. This very narrow view has been unable to ensure the success of an individual project. The Wideman Comparative

Glossary of Common Project Management Terms[12] describes user (or "stakeholder") satisfaction in the following way:

> The measure of satisfaction with project results on the part of stakeholders is a measure of project success. Satisfaction is subjective, tends to vary with time and hence is difficult to measure effectively. Project success is achieved when a project has been completed according to all requirements and satisfies the project's Key Success Indicators.

Key Success Indicators are those project management indicators that

- are determined at the beginning of the project and listed in order of priority
- reflect directly on the key objectives of the project, and
- provide the basis for project management trade-off decisions during the course of the project

and, after completion of the project:

- are most likely to result in acceptance of the project and its product by the project's stakeholders as being 'successful' in terms of 'customer' satisfaction, and
- can be measured in some way, at some time, on some scale.

It seems that for most union catalog projects (not only in Central and East European countries), designers and project managers have not defined any measurable 'key success indicators' at the beginning of the project. Even after completion of the project (i.e. after the phase of implementation) one can hardly find in the literature[13] any measured indicators proving that the project was really successful. After the structure has been put in place, and even after the goals have been achieved, it is too early to report, as some authors do, that a union catalog or shared cataloging project has been successful.

    Before I propose several 'key success indicators' for union catalog projects, let us examine what the factors influencing the project and its success are:

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[12] See http://www.pmforum.org/library/glossary.

[13] See http://www.pmforum.org/library/glossary.

## Project success factors

The literature on project implementation[14] identifies several general factors that determine the success of a project. The most important of them are:

1. Project mission―were the goals clear at the outset, and was there a strong sense of direction?

2. Support from top management―was management willing and able to bring to bear the necessary resources, authority and influence?

3. Project planning―was a detailed specification and schedule of activity steps produced for project implementation?

4. Client involvement―was there adequate communication, consultation and active listening with respect to all elements of the 'client system' (including the user, the stakeholder and the project champion)?

5. Personnel―were the necessary personnel for the project recruited, selected and appropriately trained?

6. Technical activities―was the required technology and expertise available to accomplish specific technical tasks?

7. Client acceptance―was the final project 'sold' effectively to the ultimate end-users?

8. Monitoring and feedback―was there timely provision of comprehensive control information at each stage of the implementation?

9. Communication―was there an appropriate network for circulating all necessary information among all the key players in the project implementation?

10. Troubleshooting―was there an ability to handle unexpected crises and deviations from plan?

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[14] J. K. Pinto, *Project Implementation, a Determination of Its Critical Success Factors, Moderators, and Their Relative Importance Across Stages in the Project Life Cycle*, Ph.D. dissertation (Pittsburgh, PA: University of Pittsburgh, 1986), J. K. Pinto and D. P. Slevin. "Critical Success Factors in Successful Project Implementation." *IEEE Transactions on Engineering Management*, 34/1 (1987).

Based on the experiences of the Universe project, which aimed at the creation of a large-scale virtual union catalog,[15] it is possible to divide success factors for a technology-related library project, and especially for union catalog or shared cataloging projects, into three groups:

## Project factors

which reflect the overall way the project is managed and the project's information policy. Illustrative project aspects are:

- Compliance with work plan (adherence to plan, ongoing review, project management etc.);
- Visibility and dissemination (publicity for the project, raising awareness of the project, dissemination methods, Web presence, partners' involvement);
- Exploitation plans (clear action plans for partners, solving intellectual property rights problems); and
- Partner role and motivation (collaborative approach, proactive management, proper communication between project management and partners).

## Technical factors

which are related to the technical side of the project including hardware, software and maintenance. The group includes the following factors:

- Scalability (technical ability to accommodate new partners, single and stable entry point to project results, quality of service, performance, functionality, accessibility);
- Service components (application scenarios for planned services, data homogeneity, use of standards);
- Software potential (functional scope of purchased software, 'fitness for purpose'); and
- Failures and futures (servicing, maintenance, development).

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[15] See http://www.fdgroup.co.uk/research/universe/.

## User service factors

which are the most important from the end-user point of view:

- Integration with legacy systems and practices (use of legacy hardware and software systems, respect for best practices existing in libraries);
- Delivery of services (real user requirements, meaningful feedback from users, information resources for users, sustainable services);
- Large-scale take-up (number and quality of partners); and
- Usability (transparency of services to end-user, efficiency, flexibility).

Of course, different success factors have differing importance in different projects. For example, some union catalog projects would exhibit no technical problems, because they are based on libraries with the same library automation system. For some other project, the general factors would have less importance to success because the project has the full support of the authorities on the local (and/or national) level and is coordinated by strong, experienced institutions and people with good management skills.

## 4  Performance Indicators

In parallel with key success indicators for the project, we could define performance indicators for union catalog service. The two terms 'key success indicators' and 'performance indicators' describe in practice similar, or sometimes even the same, set of values, since the meaning of a certain measured indicator may be different and depend on the purpose of measurement. A high value for a certain performance indicator may be proof of project success. For the purposes of further discussion, I assume that all indicators proposed below are equally 'service performance' and 'project success' indicators.

Performance indicators have been defined for a classic library environment for a long time. A set of basic Library Performance Indicators is defined by the ISO 11620 international standard. In recent years, as a result of the flood of electronic services in libraries, there have been attempts to enhance

and complement the standard set with the indicators related to library electronic services.[16] One of such projects was EQUINOX – the project under the Telematics for Libraries Program of the European Commission.[17] The project lists 14 performance indicators to be used in the electronic library environment. However, only a few of them could be applied to union catalogs.

Before we discuss candidate indicators for success/performance that are specific to union catalog projects, it should be noted that the differences among the projects make it quite difficult to define these indicators. The differences among projects arise in almost all their aspects:

- The time of launching the catalog―projects are started at different times, hence it is difficult to compare them as of a given date;
- The size of the project―projects may involve many libraries, but the number of potential participants is different in different countries;
- The size of participants―member libraries are not of comparable size: some projects may involve small, specialized libraries, some big university libraries;
- Level of technology―participating libraries are at different stages of automation;
- Objectives and goals―projects have different objectives: some concentrate on providing information for users, some on minimizing cataloging cost;
- Library automation systems―projects may be homogenous or heterogeneous as to library automation systems used in participating institutions;and
- The range of the project―projects have different numbers of potential end-users.

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[16] See http://www.notredame.ac.jp/~peterson/URL/ais/standards.html.

[17] See http://equinox.dcu.ie/index.html.

## 5   Proposed Success/Performance Indicators for Union Catalogs

Even if projects differ from each other, the indicators should not pick up these differences, otherwise indicator values would not be comparable. Also, projects should not be compared at different phases of realization. I assume that the project success indicators proposed below would be applied to projects considered to be completed. If the project is in the initial phase or less advanced in comparison with another project, it may either be compared with other projects that are in the same phase, or with earlier phases of projects now completed.

It should also be noted that all indicators may be used to study the development of a single project through time. Indicators calculated at one point of time may be compared with the values collected at regular time intervals to check whether the project is moving in the right direction; whether it is growing, or has achieved a stable phase (saturation) or has even retrogressed.

The following measures may be considered as possible indicators for union catalog project evaluation.

### The percentage of target libraries reached by the project

Every union catalog project is targeted at a certain group of libraries. It is seldom the case that an 'all or none' rule is to be applied to project members. Therefore, even with a set of project initiating libraries, there is usually some concern about how many libraries may ultimately subscribe to the project. Which of the possible libraries will do so? If project rules allow for participation of academic libraries, the potential target is the complete set of academic libraries in the country. If, for any reason, only 20% of these take part in the project, the value of this indicator would be rather low. In case of projects where agreed standards are high (and not many target libraries are able to meet them) or the project is not likely to adopt a variety of library systems, the indicator value will remain low for a long time. But this should only be a signal for project managers that the adopted design of the project was not really targeted at as many libraries as it should be. This indicator is directly related to the scale of take-up as a project success factor, but indirectly also to such factors as partner

motivation, ability to accommodate new partners, information policy and publicity, or respect for legacy systems and practices.

## Number of services in operation

Union catalog projects usually aim at more than one goal. The basic one is, of course, providing information about location and (possibly) availability of library material in a group of libraries. In case of countries where there is no central source of authority and bibliographic records (whether in a national library or a commercial institution), union catalogs try to fill the gap and, apart from providing holdings information, they aim to serve as a source of bibliographic and authority records ready to be downloaded to local library catalogs. Another goal may be assistance to inter-library loan services or support for collection management in a group of libraries. Besides, contemporary library catalog software has more and more new features that were not available before, but which are requested and appreciated by users. Examples are images of book covers, tables of contents, links to full texts, etc. An indicator value would simply be the number of different services offered by the project to end-users, although for the purposes of specific research, the set of such services must be clearly defined. This indicator is related to such success factors as service components, software potential or scope of the project.

## Number of searches per user

This indicator would be a reflection of usability and accessibility of project results. While the number of searches should be easily be ascertainable, the number of 'users' is more problematic. If the 'user' is a participating library, then the indicator would give the average number of (monthly, yearly) searches per library. Therefore, it would have different meanings for a project with many small libraries, and one in which the participants are fewer in number but are the bigger libraries. It would be much better to define 'users' as staff and registered users of all participating libraries.

## Service cost per search

This is the first of a series of proposed 'project economy' factors, and is obtained by dividing 'yearly project costs' by 'number of searches per year.' When estimating the project costs per year, I suggest that one should include only running project costs incurred by project coordinators, and not include costs accruing to participating libraries. The reason for this is that under normal working conditions, participating libraries should not incur costs related directly to the operation of the union catalog. Cataloging a new item, the bibliographic description of which cannot be found in the union catalog, has to be done anyway, whether the union catalog exists or not. Of course, all project participants have to cover the costs of the initial preparation for participation in the project: training in the new workflow, and possibly in the new software or hardware. But the body that runs the project (institutional project coordinator) has to cover many more costs related to the purchase of hardware and software, acquiring and training new staff, etc. For the purpose of the 'service cost per search' indicator, I would suggest that one leave out all kinds of initial costs related to starting the union catalog.

## Costs per record downloaded, costs per record uploaded

These two indicators are relevant for the shared cataloging part of union catalog projects. They give a picture of how expensive the project is per 'records turnover' per unit of time (year). As in the case of the previous indicator, 'service costs' should be the running costs of the project coordinator. The project would be more cost-effective (and hence more successful) if the costs per record were low. An additional indicator would be 'service costs per record in the database,' but the absolute number of records in the database (unlike the growth value) would depend very much on the phase of the project, and different projects could not be compared this basis.

Other indicators that seem to be somewhat more project-dependent, are as follows:

## Number of hits per search

This is an indicator that could show how useful the database is for users, i.e. how the database content matches users' expectations and needs.

## Number of staff per size of the database

Every union catalog project involves a certain number of people. Sometimes they are employed in the unit or institution responsible for project realization, and sometimes they are affiliated with the project only in the long run. The number of project staff depends on the size of the project and the project goals, and therefore cannot be used directly to compare projects. But if we divide the number of project staff by the number of records in the database, we would get some kind of project 'staff efficiency indicator', which may be used as an additional indicator of project cost effectiveness.

## Percentage growth of the database per year

This measure gives a picture of project dynamics and efficiency. However, it may not be constant throughout the period of project realization. In early phases, it may reflect acquisitions and retroconversion, in later phases only annual acquisitions. The measure is particularly useful for a single project and its dynamic changes.

## Percentage of expected database size

This indicator is definitely related to the phase of the project. While the number of records in the database is a known number, it may be hard to find out how many different titles there are in all the libraries participating in the project (in other words, what the target number of records is) in order to get the value of this indicator. But when calculated, it would serve as an indicator of project progress and might be used to compensate for the differences in project duration.

## 6   Conclusions

Evaluations of union catalog projects and their results should include surveys of user satisfaction and estimates of the values of a series of project success/performance indicators, defined as early as possible, even at the phase of designing the union catalog.

1. To assure large-scale participation in a union catalog project, it is highly advisable to carry out a survey of potential users' needs, taking into account predicted types and size of user groups.

2. User satisfaction is a very complex concept, and authors of user satisfaction surveys concerning union catalogs should be aware of the complicated nature of the possible results. Surveys should be as precise as possible and should be prepared with the cooperation of psychologists and marketing specialists.

3. Because of the relative and subjective nature of user satisfaction (depending on users), it is not a good or objective indicator of union catalog project success. Other measurable indicators should be defined. Examples of such indicators are given above.

4. The indicators of union catalog project success or performance should be defined as early as possible, and estimation of these values should be carried out regularly to monitor the progress of the project.

5. It is never too late to adjust the project model to achieve better user satisfaction and better values of project success indicators.