Use(r) Studies as a Means to Upgrade Library Effectiveness

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USE(R) STUDIES AS A MEANS TO UPGRADE LIBRARY EFFECTIVENESS

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The topic suggests the idea that there is a user research which shows indifference to library effectiveness. It is very likely that at first sight various projects of research look quite academic because they are firstly interested in establishing a well-grounded knowledge about the information behaviour whereas library management is more interested in clear alternatives as a basis for decision in concrete cases. This contrast, though, is artificial because eventually less uncertainty in the ideas of managers concerning the users' behaviour will produce a clearer library policy towards their clients.

Nevertheless, there is still some question about the worth of user research as a source of information for the libraries. So we can observe, even on a superficial review of the present literature concerning user studies, a discrepancy between the frequent mention of their practical meaning and the lack of clear statements about how far their methods and results actually have been used in a general binding way the analysis concerning the efficiency of scientific libraries, or have been referred to as a criterion for successful practical decisions.

A number of reasons of very heterogenous origin are to be taken into consideration for the difficulties in the application of organizational measures: theoretical and methodical incompatibility with applied organizational models, adverse preconditions and adverse preoccupations in the main efforts of library-policy, organizational restrictions for change, scepticism and objective difficulties when evaluating the methodical processes and the transferability of different levels of user research, too few reliable results of existing studies, too high costs of individual research projects, and, finally, the existence of sufficient information about the use from other sources.

Each one of these obstacles should be treated individually and in detail but this would certainly go beyond the limits of this paper and could not bring a perfect solution in consideration of the variety of the problems. Because of the framework of the themes in this meeting it therefore seems to be required to restrict oneself to a confrontation of general arguments for the necessity of user research, as a main support to the efforts of upgrading library effectiveness with the difficulties of the application of the results and methods and to point only to some of the practical obstacles mentioned above. In doing so, logically a definition of the library effectiveness should here be given first. Use(r) research is interpreted as an interdisciplinary operation for the enlargement of knowledge about the information behaviour of the actual and potential users with the help of the empirical social research methods.

1. The function of user research for the measurement of library effectiveness

In a comprehensive and fundamental study of often used indicators for the effectiveness and capacity of libraries in the application of management techniques as reflected in the literature of the last few decades, Orr (1) considers as his central points of criticism the confusion of quantitative indices for resources, capabilities, utilization and beneficial effects as performance measures of library services and the global indexing by indirect measurement.

Here, his arguments - only shortly described - should firstly serve to demonstrate where user studies could help to solve the problems of quantification for the common by applied management models, but also secondly in which cases the research methodologies, the
aims and points of interest regarding the treatment of library problems of these models are incompatible with the user research and why other aspects of effectiveness and application therefore emerge.

Proceeding from a simplified cause-effect sequence loop with the sequence points resources $\rightarrow$ capabilities $\rightarrow$ utilization $\rightarrow$ beneficial effects as the central variables for library management, Orr shows the problems of the measurement figures which are customarily quoted as indicating the ultimate criteria of quality (how good is the service?) and value (how useful is it?). (See Diagram 1)

Whilst library statistics can be used as a direct measure of the resources rather easily, the measures for all the other variables are obtainable only very roughly or indirectly from standardized, regularly collected data (mostly within the range of resources!). The figures for the library use resulting from the rough statistical information about e.g. number of books lended, occupied places in the reading-room, number of inquiries, are not very exact; you are absolutely dependent on indirect data for capabilities and beneficial effects.

Conversion formulae of resources and use to a potential need (e.g. number of books per student, book circulation per potential visitor) do not consider the actual demand for the library's services and its evaluation. As a consequence there do emerge great difficulties when defining expectable effects of concrete organizational changes regarding the capability of particular services because the indirect and crude methods of measurement entering conversion formulae do not differentiate between alternative methods of the application of means and resp. make them non-transparent in their specific potentiality.

The problems of direct measures (which comprise the methods of user research), of the capability and the quality of certain services are to be seen now as the operational definition of the information needs and the determination of the degree of their satisfaction by the service.

In that, Orr sees the essential reasons why the indirect procedures of measurement have not yet been substituted. For demonstration he submits a clearly arranged diagram which reproduces the "complexity of the concept of needs and of its relation to demand and ultimately to utilization". (See Diagram 2)

As it is nearly impossible to define operationally the total universe of needs of special sub-sets in a general and binding way, most of the existing use studies refer only to the manifest demand (pos. 4). Here, Orr criticizes the methods usually employed which mostly cannot differentiate between satisfied and unsatisfied demand or which introduce an "artificial", simulated user with fictitious needs as a means of comparison. A further complication for the interpretation is the possible influence of capabilities of the library, as perceived subjectively by the user, on the early decisions (pos. 2 and 3) which do not appear in the relation of the satisfied to the unsatisfied demand.

Direct procedures of measurement of the beneficial effects and the value, being produced by a service, are the examination of the objectives of the parent organization and the assessment of the contribution to these objectives by the library services, or the assessment of the value which is attributed to the effects by the users through direct personal judgements or actions in different ways. The first procedure can be accepted - if at all - only with restrictions in view of the lack of definite and precisely defined organizational objectives in the scientific and cultural institutions; concerning the second procedure there exist only very crude measures in a standardized form.

Orr completes his survey and the general thoughts with some criteria for the further development of performance measures: "Appropriateness, informativeness, validity, reproducibility, comparability and practicality" which more or less make necessary a choice depending on the purpose and the situation for which the measure is intended. So, the possibility to create generally applicable quantitative standards of library performance or criteria of effectiveness is negated, at least at the present state of the development, although the claim should not be given up totally. It is important, however,
DIAGRAMS

No. 1

[Diagram showing the relationship between Quality, Value, Resources, Capability, Utilization, Beneficial Effects, and Demand]

No. 2

[Diagram showing the steps of recognizing, acting on, and utilizing demands, with branches for manifest and latent demands, and recorded and unrecognized outcomes]
to remark that the aim of this study seems to be still related to the creation of these
general standards and rests so far linked to the efforts of quantification of a certain
species of the management sciences.

But even from this point of view the objective of user research for the direct procedures
of measurement cannot be substituted. The expectation, however, to find a mechanism
with the help of user research for gaining general, standardized and regularly collectable
data without setting specific library objectives for the relationship to the user will hardly
be fulfilled. The missing of these seldom clearly stated organizational goals is a crucial
problem and a major obstacle for the measurement of the complex information needs and
their satisfaction by the library. Regarding again the illustrative diagram no. 2, the
restriction of most of the user studies to the "manifest demand" (pos. 4) has to be
understood also as a too much limited but not explicitly expressed idea of the
optimization of the internal processes of the organization conceived as a closed system,
which accepts the external environmental conditions if at all only as a residual statistical
quantity. (2) This restriction of the perspective does neither meet the requirements for
necessary adaptations to the dynamic accelerating changes in the libraries' environment
(e.g. new organizational and administrative structure in the universities, new kinds of
research organizations, the increase of the quantity of students and the considerable
growth of research) which are the main reasons for the use(r) research projects and the
well-known reality of interlibrary cooperations (the latter would include at least pos. 3 in
the diagram), nor does it substitute the specification of goals for the external domain.
The idea, which is certainly legitimate, of optimal, rational internal organization
procedures and the continuous documentation of their success by means of statistical
standards to gain support is still incompatible with the final aim of user research to
analyse the environmental demands for flexible, adaptable services and, if required, for
changes in the task-structure of the library organization.

It would take too long to give here a report of recent developments in the modern
theories of organization which permit in their basic assumptions the integration of the
stated inconsistencies on an abstract level and which possibly purport the better
management philosophy for the effective application of the user studies. (3) Regarding
the relation of the two differentiated procedures it is true that the user research with its
methodical measurement instruments is a necessary contribution to the data gathering
techniques of the optimization models; its potential importance, however, consists of the
continuous testing of the presupposed assumptions of these models concerning the
statistical measurement figures as indications of the usefulness of library services and
the amassed knowledge of the user behaviour.

Possibly the blame of a brased view in favour of the internal organization problems which
are easier to control seems to be a bit overstated. For the extension of the systematic
exploration of all questions which deal not only with the descriptive, enumerative
measurement at the contacting points of the library with its users, means an additional
methodical refinement and therefore also a high expense of money. Taking the example
of evaluation of organizational innovations we want to check in the following chapter
from the methodological point of view of validation whether it is advisable to spend the
money for that purpose.

2. The function of user research for the evaluation of organizational reforms

Usually the libraries justify in their reports the success of reforms in the field of use by
indicating the changes before implementation and after that represented in the above
criticized measures of use. Even if we neglect the difficulties in interpreting them as
measures of the quality and the value, the following obstacles in the evaluation of the
numerical changes do result: (4)

The changes could also be attributed to facts which have already happened, like:

- other external influences on the use (e.g. complication of the use or the closing of
  another library, introduction of new reading/literature exercises in the study
  programs)
- considerable fluctuation of the users (e.g. over-proportional increase of beginning students or of students in the disciplines more dependent on literature)

- natural increase because of unusually bad measurement values immediately before change

- general increase of the potential users.

Strictly speaking the creation of a causal relation, therefore, is impossible and the effect of the reform is uncertain. This is especially disadvantageous in most cases where only small differences can be expected immediately. For, as the using of nearly all services of the library presumes a process of learning and habituation and it is not always done with a continuous intensity, abrupt and clearly recognizable changes cannot be supposed.

In addition to this, the library services are interdependent which, in some cases, results in an alternative utilization (e.g. bibliographies vs. subject catalogue). As a consequence, it seems to be very complicated to bring in view all variables, distorting a simple cause-effect relationship.

There exists no possibility, as in an experiment, to form randomly selected control groups, which are disposed to the previous use conditions. But also a direct comparison of different libraries often must fail because of the lack of completely equal conditions of the library use and the different composition of the potential users, unless the innovation consists of basic changes in the principle use conditions like e.g. opening times or lending terms (5).

50, a problem emerges which is similar to these in the largest part of the empirical social research, namely the interference of the measurement process in on-going group or organization processes. Therefore the evaluative tests should be reverted to the methods which were developed there. For the most used method, the interview, it means that the questionnaire has to incorporate the possible variables of influence, independent of each other, that meaningful methods of scaling are applied, that the fundamental statistical prerequisites of sampling among the potential user population are adhered to. Two interviews, before and after the reform, of different, randomly selected groups, are similar to the experimental procedure. The expectations about the effect of the measure can then be examined by the statistical inference methods in comparing the influence of the different "test"-variables, expressed in independent questions. For reduced methodological demands a single inquiry after the reform may suffice for that purpose in complementing to the "objective" library statistics.

These short illustrations have to be enough here. They should only call in doubt the quality of the normally used evaluation procedure so that the usefulness of the methods of empirical research are more visible.

Nevertheless, for the library management, the adherence to these rigorous standards of supplementary inquiries is advantageous only in so far as there is a more valid data base for decisions and for the proof of their rightness. The maintenance or extension of external support from the parent organization in form of the budget can still be obtained by demonstrating their effective utilization by means of library statistics, although the rise of "social reports" and "social accounting" in institutions of the public service signalize the transformation of the public interest.

Thus, there must be much more individual initiative for the application of the user research in its most frequent and most emphasized function as an instrument to facilitate the goal setting process concerning the services and the environmental domain of the library organization. For this refers only to one sub-goal apart from those of effective staff leading, organizational procedures etc. Further, the variety and heterogenity of the user research, practiced nowadays, and of the present results is contradictory to a cumulative growth of knowledge, an easier processing for the application and the co-ordination of the expensive research projects (6).
But independent of these difficulties there will always exist the problem that the libraries, owing to their relative monopoly as institutions of the public service have to balance actively the lack of a direct feedback to the changes of their clientele with anticipating innovations.

Considering the difficulties mentioned above, the last chapter can only superficially describe an idealized picture of the possibilities of utilization of the user research from the point of view of the individual library. For that purpose the existing types of use(r) studies are attached to three levels which correspond to the goal-setting process from the statement of general goals of library policy over the specification and limitation of the alternatives comprised up to the decision in the special case.

3. The function of user research for the goal-setting process of the library organization

On the highest level, the formulation of the most important goals of library policy, the various results of the research about the information and communication behaviour in general of the scientists and students should be consulted in the main. The activities of the libraries are hereby restricted to the cognizance and the current information about the results according to their actual or intended users. Own research projects concerning the information behaviour, which does not refer directly to the library use are beyond the possibilities of the individual library with regard to the high costs involved in these basic researches.

With regard to the contents at this level the research questions should here include the information needs, information utilization, and the valuation of information technologies, and the media of communication, but also the position of the libraries in the hierarchy of possible information suppliers (see diagram no. 2, pos. 3). All these points, which of course are not independent from each other, are subject to the permanent changes in the sciences which the libraries must take into account. The function of these studies then mainly consists of stimulating changes in the goals of the library organization, e.g. to increase the stock, to introduce new kinds of services, or to initiate the cooperation with other institutions, resp. in the revision or modification of widespread theoretical ideas about the information behaviour of the users.

The theoretical basis of these studies of the "science of science" or information science is, however, too broad and too abstract, and further it is often limited to the methodological standards and experiences of the participating disciplines. Therefore, for the special problems of the libraries on the medium level, the limitation of the possible alternatives in the goal-setting process, a relation has to be established connecting information behaviour in general and the user behaviour concerning the information services of the libraries. Especially the comparative use(r) studies with a broader theoretical frame of reference, spanning several libraries with different conditions of use are belonging to this level.

In the Federal Republic of Germany one could classify here the user research projects 1 and 2 which - sponsored by the Deutsche Forschungsgemeinschaft - were carried out by social research institutes in cooperation with working groups consisting of interested librarians. (7) The function of this type of research is bound, apart from some direct applications (e.g. decisions being under discussion concerning special services), primarily to the provision of the theoretical background knowledge which is important for the individual library organization, for the specification of the more general goals and of improved measurement instruments of the user behaviour. Both tasks are indispensable to ascertain the user demand and to control the success of organizational measures in the special case.

Valid and reliable measurement instruments have to compensate, as mentioned above, the lack of generally applicable standards, and the theoretical explanations, confirmed in the more comprehensive studies prevent from the exclusive reference to the "manifest" demand (see diagram no. 2).
With regard to the necessary broad theoretical and methodical range on this medium level of data collection for the goal-setting process, the direct activities of the individual library here also do not exceed a probable participation in the comparative studies.

The passive role of the individual library on both research levels can easily induce the neglectful and unsystematic usage of the results by transferring them to the lower level of the decision in the special case. So, the present situation of the user research and its application is characterized by a vast body of knowledge incorporating manifold results, and on the other side, without connecting links, by the existence of a numerically greater quantity of descriptive use studies, intended to support the practical decisionmaking, which always start anew in the theoretical and methodical beginning. Therefore the latter cannot fulfill the expectations to provide a reliable basis for decisions.

A moral appeal to take notice of the results of the user research certainly has no effect. Therefore, besides, a problem should be pointed out concerning the organizational embeddedness of the user research in the libraries. Certainly each institute of market research and each larger industrial organization with a marketing department maintains sections for documentation which collect all the information being important for their function, e.g. the literature about the psychology of the consumer behaviour, market research reports and questionnaires to which one can revert to, in need. In as much as the user research should contribute to the effectiveness, also the libraries are compelled to gather information material in their own interest. It should be prepared in a way that a continuous information and usage is possible.

If one presumes that this condition is carried out or that the library management is provided in another way with the knowledge of the theoretical explanations and the methodical instruments resulting from the two more basic research levels, so, on the lower level of the goal-setting process there do emerge the questions about the transferability resp. the specification of the conditions of application and the completion of the results, necessary for the decision in the special case.

Only in rare cases do these research endeavours consider all special efforts and all questioning which may be suitable for the problems of the individual libraries. Consequently, there arises the necessity of modification with the help of own completing inquiries which test systematically the significance of the situative variables.

The function of user studies on the lowest level of the production of organizational goals, specified to the individual library, thus consists mainly of the completion or test of the present state of knowledge in a special situation. Sometimes, this involves of course, also a modification of the measurement instruments and the validation of new operational definitions (e.g. questioning, scaling, categorization) which must be adapted at the same time to the library services in question.

Since the completing inquiries do not include the total set of questions for the explanation and as a base for decision, and since they use most of the methods and instruments already proved in other studies, the expense is much smaller.

Only in this way could the basic conditions of own research endeavours be fulfilled so that the library management - in addition to the routinely collected performance measures like e.g. the library statistics - can provide a reliable data base for decisions, and, the possibility of the anticipated goal-setting as well as the interpretation of all aspects of user behaviour from the need to the "manifest" demand (see diagram no. 2) would be comprised.

Thus, one proposal for the next decade should be to intensify the efforts of coordination and cooperation in the use(r) research.
References


4. See the detailed and more scientific discussion of these problems of validation in:


Chairman: Can you give us some practical details about the carrying through of user studies?

Meister: It's very difficult to do so in a short amount of time, and it varies with each project. You cannot give a standard procedure for user research. There are many measurements.

But one can say that it seems nearly impossible to conduct an inquiry without the knowledge of these measures; so libraries in most cases have to consult research specialists, for instance, social scientists, or psychologists.

Prof. R.C. Simon: I would like to have the speaker's opinion on the question of sampling. What would be an adequate sampling, and what would be an adequate frequency of sampling?

Meister: Usually one samples from the library user file. There is distortion here insofar as potential users are not represented. I think it would be better in the case of a university library to collect samples randomly from the whole student population. I think 1000 samples would be sufficient in most cases.

Then you could compare by normal statistical significance tests.

Simon: I was specifically referring to questionnaires and their distribution. Let's say, distribution during an academic year.... What are the high times, low times, and so forth?

Meister: Yes. That's very difficult, the measurement of frequency. Yet, if you use a questionnaire only once you can ask, "How often have you used the library in the last month? Last two months?" etc. Then there are standard validation procedures to control the accuracy of such responses. You have a distorted distribution at certain times, but you can construct the questions in your questionnaire according to your ideas and knowledge about your own distorted distribution vis-à-vis frequency of use.

Also, it's generally better to take the information you get from a questionnaire; not just from statistics.