

ISKO WG-CA	On the Financing of Information Services	R-02 Oct.1992
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1. Introductory Remarks

In choosing a financing model for information services a large variety of factors needs to be considered, some of which defy the usual cost - benefit analysis because of the fact that, despite all pertinent efforts put in so far, *the benefit in this case is not quantifiable* - no more so than the benefit derived from newspaper reading, child education or from the costs of participation in cultural and social life is quantifiable. Failure to recognize this situation and the use of unsuitable benefit evaluation yardsticks has often led to serious misjudgments and sometimes even to the liquidation of even the most effective information systems, much to the (if only latent) detriment of the institutions using these systems. Management consulting firms can easily cause major and near-irreparable damage in such cases. Moreover, in considering such financing problems one will often be led astray by the advertising claims of commercial databank or software suppliers.

In this recommendation we can only call attention to the existence of such pitfalls and recommend that for the financing of information services advice from the field of information science be obtained, such in supplementation of economy considerations.

Financing problems are encountered particularly frequently where a choice is to be made between a commercially available and an internal information system, as well as in deciding whether to concentrate expenditure on retrieval or on storage (including literature analysis).

2. Commercial vs. Internal Information Systems

In making use of information services one often has to decide between an internal information system and, by purchase or subscription, the use of a commercially available one.

An internal information system requires long-term investment of funds and considerable expenditure for personnel who must be suitably trained both in EDP and in information science, particularly with regard to the setting up of information systems. A commercial information system largely dispenses with all that. Here the costs of literature input find expression in the retrieval fees, which can be freely disposed of at any time.

An internal information system will be opted for only after the *quality and survival power* of a commercial information system have proved inadequate (and also, of course, if there is no commercial information system at all for the field concerned).

The *quality* of an information system depends decisively on the *indexing* and its *scope of coverage*. While indexing reflects itself partly also in the *accuracy* of retrieval as observable at a given point in time, this purely empirical approach alone does not permit a usable evaluation of the quality of an information system. Such an evaluation requires, instead, extensive investigations, well grounded from the point of view of information science (cf. Recommendation No. 01: User Evaluation of Information Systems).

In a *commercial* information system the user has practically no influence on its maintenance or at least on its adjustment - as continuously required - to changing requirements. One must also be prepared to be confron-

ted at any time with the abolishment or serious curtailment of the commercial information system in one's own special field. Thus there is always a major risk inherent in relying on a commercial information system. An *internal* information system, on the other hand, is much better assured.

The usability of an information system also depends, however, on the *quality* of information supply, for an - initially highly promising - information system can lose more and more of its value through lack of retrieval accuracy until it may eventually become wholly unusable.

Thus, a seemingly quite economical information system may easily prove to have been in reality a most expensive malinvestment.

Before opting for an internal information system, however, one should also examine whether the expertise and the technical and personnel resources are internally available for developing and maintaining an information system which at long range will qualitatively be clearly superior. Knowledge of EDP alone is not sufficient for solving such a complex task, one which is deeply rooted in the philosophical realm.

Also, management must be quite certain it can take an absolutely positive stand on such a project. An information system can, at long range, be severely hampered by being continuously called into doubt through questionable cost-benefit considerations, with a major part of its personnel being continuously occupied with uncovering and countering unqualified criticism (cf. the aforementioned Recommendation No. 01).

3. Storage-intensive vs. Retrieval-intensive Information Systems

If one has opted for an *internal* information system, one will, in designing it, have the choice between two prototypes:

A *retrieval-intensive* information system works with low storage costs (literature analysis being only superficial), but with high and *continuously increasing* sequential costs (for the post-processing of retrieval results and for the efforts to reduce their incompleteness), and therefore with less survival power.

A *storage-intensive* information system works with high input costs (because of the deep literature analysis), but with low and largely constant sequential costs. For this reason (and also because of the greater completeness of its retrieval results) it has greater survival power.

Survival power should be deemed of great importance, for the failure of an information system means the loss of practically everything that had been invested in that system, including the possibility of access to the collected literature.

If the information stores may become very large and are to remain intensively usable far back into the past, it becomes necessary to give preference to the second prototype.

For such an information system it makes little sense to finance it through *charging the users directly in accordance with the use they make of the system*. The costs for information services would then have to compete with those for, e.g., personnel, equipment, repairs and materials. Restricting the searches for information is then always the most simply realizable cost-cutting measure, with the personnel thus being obliged, as it were, to work under an information deficit. In that case the relatively high (though rewarding) fixed costs cannot yield the expected fruits. Especially in financially strained times the use of such an information system would be drastically curtailed for the sake of (deceptive) cost-cutting. The remaining searches still carried out would become more and more expensive and in the end economically prohibitive.

If an adequate retrieval quality is deemed important, it will nearly always be necessary to consult experienced information specialists. Then, such a misplaced financing model may easily have the result that the costs issue develops more and more into a subject of heated discussions spoiling personnel relations and extremely hindering efficient work.

4. The Technology Illusion

It is a serious error to assume that, once "modern technology" has been installed, one no longer needs (or at least soon won't need) any specialized knowledge for designing and effectively searching information stores and that automated literature-analysis and storage permit considerable cost reductions already now. Yet this error is still continuously being propagated by those bent on selling their technology, especially their usually poorly indexed stores and their often inadequately structured retrieval methodology, and who can draw profit from their clients' lack of experience and training. One feels reminded here of someone trying to sell as many pianos as possible, while failing to tell his prospective customers (or even denying) that in addition it is also necessary to learn to play the instrument.

5. The Failure of the Free-Market Economy Financing Model

In the field of information services, the financing model patterned after the free market economy is bound to fail for a variety of reasons. Services in the information field share with many other institutions the peculiarity that they can be financed *only according to a quasi social economy model*, and then only with the aid of *long-term safeguards*. While not all members of a community make use of these services, such use occurs always in the *interest of the community*, even though the communal benefit of such use may remain more or less latent.

An abusively excessive use of an information system, as often dreaded from the accountant's point of view, will practically never occur, since the use of an information system simultaneously requires a user to go to considerable efforts to circumscribe the subject of his or her search

It is up to management to develop this farsightedness. Other company departments, too, such as personnel, administration, fire department, library, etc., likewise defy financing through the charging of a fee for making use of them. Nor would any country have a national railway system if the total costs of a train ride would have to be apportioned among all people waiting on the platform, however "just" such a financing procedure might seem from an accountant's point of view. Any institution, no matter how useful, may come to failure because of an unsuitable financing model.