5 Review

5.1 Overview

This dissertation set out to investigate a special and rather unusual kind of OPAC – card-image public access catalogues (CIPACS) – and their impact on libraries and library users. The general aim of the study was to build up an informed view of this area, by looking in particular at (1) the present spreading of such catalogues and their main characteristics and navigational features, (2) the main problems and issues interconnected with the creation and implementation of CIPACS, and (3) the awareness, the behaviour and the opinions of CIPAC users, in order to gain some basic insight into the way they feel about and deal with this type of online catalogue.

In order to achieve these goals, several approaches were used. First, a comprehensive survey of existing CIPACS and their characteristics was undertaken; this also included the implementation and updating of an international CIPAC web-page. Second, the main issues in CIPAC creation and implementation were identified and discussed, based both on the relevant project literature and the answers of 23 libraries to a short unstructured questionnaire. Third, a web-based qualitative survey of 320 users of eleven CIPACS in four countries was undertaken, exploring their frequency of use, their familiarity and problems with navigation, the use of CIPACS compared with former card catalogues and "normal" OPACS, more specific features (subject searching, online ordering), as well as their general (emotional) view of card-image catalogues.

From a critical point of view, the following methodological constraints of these approaches must be kept in mind:

(a) Although every attempt was made to identify CIPACS in all countries, the International CIPAC List (web-page) cannot claim to list every existing card-image OPAC. Likewise, the inventory of CIPACS on which the comparative analysis of their main features is based is not exhaustive; in some cases categories could not be filled because of language barriers,¹ insufficient information on CIPAC web-pages, lack of project documentation/literature. Also, the CIPAC Library Questionnaire (CLQ) covered only about half of the existing CIPACS.

¹ e.g. Catalan, Lithuanian, Polish.
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(b) The study has concentrated on card-image catalogues offered by a variety of libraries in many countries. However, similar applications that may exist in the world of archives/records management, industry or other intelligence and information units have not been investigated. This was not only due to the fact that the author's research interest is focused on the library world, but also because implementations in those other fields are rarely mentioned in the literature.

(c) The web-based survey of CIPAC users is relatively small in scale and its results do not permit generalization in a statistical sense. Also, the fact that users of eleven different CIPACs were covered did not permit to concentrate the questionnaire on specific aspects of any of these catalogues. Nevertheless, since the field has not been surveyed before, even an exploratory survey was able to provide new insights, which could be examined and quantified on a larger scale by further research.

5.2 Conclusions

Based upon the observations and findings presented in the preceding chapters, the following conclusions can be drawn:

1. Although not yet a common phenomenon, CIPACs have been growing in number in the last few years. At the present time, (at least) 50 card-image online catalogues exist in (at least) 11 countries; a further increase of implementations can be expected. So far, CIPACs are predominantly, but not exclusively, a phenomenon of the German-speaking world.

2. Four main types of CIPACs have been identified, i.e. systems based on (1) binary searching, (2) on the browsing of partial indexes (guide cards, headings) or (3) virtual drawers (drawer labels), and (4) systems that permit searching of the OCR processed text of the cards. The majority of the existing CIPACs are of types (2) and (3). All four types rely on some features of the former card catalogues; whilst (1) and (4) only make use of the alphabetical sequence of the cards, (2) and (3) also exploit structural elements and search aids originally designed for one-dimensional searching.

3. Many CIPACs are large or very large catalogues; the lower limit for implementing a CIPAC seems to be in the region of 100,000 cards. Most of them are author/title catalogues; subject or classified catalogues are still rare. The image formats used for visualization are GIF and, less often, TIFF (which requires additional software). Options for
online document ordering are present in only a third of the cases; printing/downloading is often left to the browser rather than supported by the software. Online help of varying length is present on most card-image catalogues.

4. Cost, speed of creation and universal access via Internet/WWW are the most important reasons why libraries turn to the CIPAC approach; savings in space (getting rid of the card cabinets) and preservational aspects play also a certain role. The comparison of (inconsistently) reported cost figures leads to the assumption that for an average partial index or drawer label system the cost per card is about €0.11. Compared with "normal" conversion (€2.42–€4.23) the difference in cost is indeed striking.

5. The CIPAC software situation looks rather scattered; there is a mix of commercial and home-made solutions. The only commercial product used on a somewhat larger scale is Chopin which is marketed by a German vendor that also operates as a sole contractor in CIPAC projects. It seems that software is often chosen (a) by chance (low cost/no cost) or (b) by imitating existing solutions (either intentionally or not).

6. A number of technical aspects need to be considered when a library plans to implement a CIPAC. This includes preparatory work (e.g. "cleaning" the card catalogue), the question where and by whom scanning and the subsequent quality control are to be performed, the decision on the image format to be used, manual and/or intellectual input (in-house or by out-sourcing); availability of an administrative software module for modifying the CIPACS in the future. The library also needs to decide whether it wishes to undertake the project in-house or by out-sourcing parts or the whole of it.

7. Optical character recognition has not yet been widely used for CIPACS; however, the three systems based upon OCR processed text (BerninaSpider, DigiKat, HeBIS-Retro) look particularly promising in terms of retrieval effectiveness and user acceptance.

8. A particular challenge for CIPAC creation lies in the peculiarities of some old catalogues, such as physical form (book catalogues), rules for cataloguing/filing that may be incomprehensible for today's users, and old scripts used on handwritten cards that even librarians may not be able to read.

9. The way in which CIPACS are presented to the users leaves some wishes open, as these catalogues are named in a very inconsistent manner and rarely are integrated with OPACS and/or library web-pages. Usually, the users are left in the dark about why
CIPACs exist alongside OPACs at all. Many CIPAC libraries assume that their card-image catalogues were well received but in general they do not know much about their users.

10. In the view of the majority of the libraries currently offering CIPACs, these catalogues will be only interim solutions for the time of their ongoing retroconversion activities, or medium/long-term solutions until funds for retroconversion are available. Only in the minority of cases the respective CIPACs are considered as permanent.

11. The exploratory survey of 320 CIPAC users suggests the following hypotheses:
   - CIPACs are predominantly used in the humanities and have almost no relevance for study and research in science and technology;
   - they are used more likely by groups of "regulars" than by occasional users;
   - users are interested in CIPACs not only for known-item searches but also for subject retrieval;
   - if there are problems of getting into CIPAC use at all, they are more likely to be navigational aspects than legibility of cards, cataloguing/filing rules, computer handling etc.;
   - navigation in CIPACs is not as easy as many users believe as often items looked for are not found; this applies particularly to student users;
   - CIPACs which offer alphabetical indexes as entry points are seen as more user-friendly and convenient than the others, and are therefore accepted better by the users;
   - CIPACs are used more frequently than the former card catalogues, mainly because of their universal availability, even if many users do not find them easier to use;
   - CIPACs are not used as much as "normal" OPACs, presumably not only because of the content they offer but also due to the lack of adequate features for searching;\(^2\)
   - CIPAC users who are aware of other CIPACs are likely to use those quite frequently as well;
   - many users are not aware of the options that their CIPACs actually offer (subject searching, online document ordering); when they are aware of such options they are rather inclined to make frequent use of such features;
   - generally speaking, CIPAC users seem to appreciate the universal accessibility of card-image catalogues but not the interface(s) that these catalogues offer for navigation.

12. This dissertation has shown that the CIPAC approach has to offer much to libraries that cannot afford to convert their large old catalogues as fast as they might wish.

\(^2\) This may be different in the case of OCR based CIPACs (not covered by the user survey).
However, the absence of sophisticated search options, the problems that many users have with the interfaces offered for navigation, and the features of a past and mostly outdated generation of reference tools that these computerized card catalogues inherently carry suggest that they are at best acceptable as short or medium-term, but not as permanent alternatives to "real" OPACS.

### 5.3 Suggestions for further research

Several aspects of the investigated area invite further research:

- The findings of the exploratory user survey call for a large-scale examination leading to results which lend themselves to quantification and generalization. As sampling will be a problem (because in the case of web-based reference tools the "population" is unknown) one of the tasks will be to design an appropriate methodological approach.

- Qualitative in-depth user studies of individual CIPACS or types of CIPACS should be undertaken in order to explore aspects which could not be covered by a multi-CIPAC survey as the one presented in this dissertation, such as how users cope with particular navigational techniques (e.g. partial indexes) or online ordering mechanisms (e.g. transferring a Zurich call number from the CIPAC to the Aleph 500 circulation system).

- A comparative study of CIPACS and traditional card catalogues concerning retrieval effectiveness, speed, etc. could be undertaken by using an experimental approach.

- Although the majority of CIPACS are author/title catalogues, subject catalogues (both subjects headings and classified catalogues) also have been converted by using this approach. So far, neither in-depth studies of the CIPACS' capabilities for subject searching, nor of the retrieval effectiveness of card-image subject catalogues have been made.

- Finally, it would be useful to undertake an empirical evaluation of CIPACS in order to establish an instrument for comparing features and approaches for planning and implementation purposes. This would require the elaboration of a set of weighted criteria for evaluation and the empirical application of this scheme on various CIPACS, e.g. by focus groups or samples of expert users/librarians.