CHAPTER FIVE

INTERPRETATION OF DATA

5.1 Introduction:

This chapter interprets data presented in the previous chapter. It attempts to provide reasons for general patterns observed and the type of data obtained. In the process, potential solutions to identified problems are presented. Data interpreted in this chapter will be based on the following:

- The INNOPAC library system performance in GAELIC, FRELICO and three institutions in other Southern African countries;

- The impact of the system in libraries;

- Cost-benefit analysis of the INNOPAC library system;

- Motivation and benefits of consortium membership; and

- System requirements for LELICO.

5.2   The INNOPAC library system performance in GAELIC, FRELICO, and three institutions in other Southern African countries

5.2.1 Performance of the system in GAELIC and FRELICO

All the libraries under investigation have installed, and are using, the basic library modules: Acquisitions, Cataloguing, Circulations, Serials, and OPAC. As shown in Table 8 some libraries have installed additional modules such as Web Access Management, Course Reserve, Media and Electronic Resource Management. In general, the system is performing well in terms of modules that are operational in FRELICO and GAELIC

libraries. The general satisfaction with the modules confirms the Underwood and Smith's (2005) study, which shows that most GAELIC libraries were satisfied with the way the INNOPAC library system is performing. Both library professionals and system managers are happy with the performance of the different modules, as reflected in Tables 9 and 10. This is attributable to the system's ability to improve the operations of libraries effectively by making them better able to serve their clients. There has also been an increase in productivity among staff.

All the properties of Availability, Accessibility, Reliability and Security were rated as successful for the efficient functioning of the system, especially that of Security. Site visits by the researcher showed that the system is protected by user passwords, which are assigned for certain modules, enabling users to edit or change data. Another helpful feature of the system is its effective back-up facilities. All data is backed-up daily with quick retrieval of records in cases of loss.

The system's usability is effective for its user friendliness and ease of use. Comments by most library professionals show that the INNOPAC library system is straight-forward and easy to understand. Error messages and help messages were rated relatively low, which could be attributed to 'unclear and not always helpful' messages, as mentioned by some library professionals. Others indicated that some error messages may not be understood by novice users, implying that one needs to be familiar with the system to comprehend the error messages.

Support was evaluated according to online and offline support and training, which encompasses manuals, training, tutorials and updates. All components were rated as successful, with initial training having the highest rating, as shown in Table 13. This might be because of the vendor, Innovative Interfaces Inc., offering as part of the system. Additional training has to be paid for by individual libraries, which can negatively affect any ongoing training requirements, especially if there are budget cuts. GAELIC provides training to its members regularly. This is very helpful, as it offers one-on-one training, which most people prefer. However, the interviews showed that one of the problems of training is that different libraries have different versions of the system. Ideally, training would be easier and more effective if all member libraries had the same version, preferably the most recent. Currently, libraries operate at different levels, which affects both the training and support given by GAELIC.

System management in libraries is good. Each library has a system manager who attends to problems in the use of the system. The best-rated component is 'helpfulness' and the worst rated component is 'response rate'. System managers report problems that they cannot solve to the vendor – the company is based in Emeryville in the USA. The poor response rating can be attributed to the different time zones between South Africa and the USA, which delay responses to queries. The vendor was rated average in terms of accessibility, availability and helpfulness, but again, the component of response rate was the lowest (see Table 15). Interviews revealed that although the vendor's helpdesk – CSDirect is available 24 hours a day, the time taken to respond to queries remains unsatisfactory.

5.2.2 Performance of the system in three institutions in other Southern African countries

The three institutions in other Southern African countries, namely BCA, UNAM, and NUST, evaluated the performance of the system in a slightly differently. BCA rated the system's performance as extremely good, NUST rated it as fair and UNAM rated it as poor. BCA has used the system the longest (four years), while NUST and UNAM have used the system for three years and eleven months respectively. UNAM was probably still experiencing teething problems, whilst the other two institutions were relatively more familiar with the system and more knowledgeable about its problem-solving techniques. It should be noted that although UNAM implemented the INNOPAC library system through GAELIC, it does not fully enjoy GAELIC's support because of geographical barriers.

Although they are fairly satisfied with the system, they have encountered. The issue of the response rate still affects the overall performance of the system. Poor response rate was reiterated by two Southern African libraries under investigation, namely NUST and UNAM.

Another problem mentioned by one library was that its e-mail support is negatively affected by the time differences between Southern Africa and the USA. This kind of a problem can be solved by adjusting the system time settings, so that it recognises the origin of the message and converts timing accordingly. Another problem is that of the high costs of additional training; while training fees might be high according to local

standards, this problem is exacerbated by the unfavourable exchange rates between the local currencies and the US dollar.

To improve the performance of the system, support, the vendor should be encouraged to open a Southern Africa office to handle regional queries, which would also help to resolve problems peculiar to the region.

5.2.3   The impact of the INNOPAC library system

Table 26 indicates that there has been a positive impact of the INNOPAC library system on the selected libraries of GAELIC and FRELICO. Impact was measured in terms of productivity, customer service, access to consortium libraries, cost-saving and contribution to decision-making processes of the library. All aspects were rated effective, except 'access to consortium libraries'. It should be noted that all GAELIC and FRELICO libraries have separate library servers, and have no direct access to each others' holdings. For one library to be able to view the holdings of another, it must either go to the website of that library or enter via SACat of SABINET. The low rating could have been influenced by this arrangement. A central server might be part of the solution to better access to each other's holdings, but Underwood and Smith (2005) noted some ambivalence on this issue. There are concerns about the relationships that each library has with its IT service department, and the locus of control of the server. Moreover, the different versions of the system that member libraries operate tend to negatively impact on the training and support given by GAELIC. A central server could significantly reduce costs. This will be discussed in the following sub-section.

The benefits derived from the system, as summarised in Table 27, show that the system is rated successful in terms of effectiveness, reliability and the wide range of functions it provides. A large user base has a positive effect on training and support. Training sessions are sometimes held collectively and members support one another when problem arise. The system has also been praised for being up-to-date with the latest library developments.

5.2.4   Cost-benefit analysis of the INNOPAC library system

The cost of implementing the library system is generally perceived to be very high, even though some of the initial costs are carried by the donor – the Andrew Mellon Foundation. Table 28 details the fees, which include installation, running, equipment, training and staffing costs. There is great discrepancy among institutions in terms of the amount of money spent, which could be related to the size of libraries, the number of licenses that each library bought and additional modules purchased. For example, UFS spent R370 000 to purchase additional modules. The libraries also needed somebody to manage the library system, either by allocating the task to an existing member of staff, or by employing a new systems librarian.

Other costs relate to communication with the vendor. Although the vendor promotes the use of e-mail to report queries, interviews show that sometimes it is necessary to follow up on queries made by telephone, which is expensive. Concerns over the distance

between the vendor and client relate to costs, support and training and underscore the need for a local/regional *Innovative* office.

Another cost-saving measure that could be considered by consortia members is to have a central server. As indicated earlier, there are concerns about the different system versions operated by libraries, which negatively affect training and support, and the overall development of GAELIC as a consortium. Libraries incur costs related to staffing, equipment and maintenance and a central server would require fewer system managers, less equipment and lower maintenance costs. The need for a central server was also raised by Underwood and Smith (2005) as one of the benefits that some members desired from GAELIC.

When weighing the cost of the system against its benefits, most respondents indicated that the benefits that they derive from the system outweigh the costs. The majority of system users mentioned the effectiveness of the system, the wide range of functions that system performs, and the support and problem-solving skills that they get from fellow consortia members as valuable strengths of the system. The affordability of running the system depends largely on individual institutions. It is likely that foreign exchange will continue to affect costs, but the consortia could negotiate with the vendor for special licensing prices in the same way they do for electronic resources.

5.3 Benefits of consortium membership

According to Table 29, GAELIC and FRELICO members mentioned the following reasons for joining their consortia:

- Access to a common library system;

- Resource sharing;

- Joint purchasing of electronic resources;

- Joint development opportunities;

- Networking; and

- Access to donor funds.

When one tallies these reasons with the derived benefits listed in Table 30, one observes that all the expectations were to a large extent met by consortia membership. Most libraries joined GAELIC when it was formed in 1996, and have installed a common library system, which has improved interaction among members, especially in areas such as system support and training. This has a positive bearing on resource sharing, which entails sharing skills, expertise and problem-solving techniques, not only in system management, but in the overall running of the libraries. Both GAELIC and FRELICO are currently jointly purchasing electronic resources and they are successfully bargaining for lower prices for electronic resources. Both the questionnaires and interviews confirm that there is on-going networking at meetings, training workshops and conferences.

Some of the benefits identified by GAELIC and FRELICO also apply to LELICO. These relate to access to electronic databases, training and development opportunities. The need

to install a common library system for LELICO is high on a list of proposals that LELICO members submitted. The majority of LELICO libraries are not yet computerised, and acquiring a system would greatly improve operations in these and other LELICO libraries. Other benefits related to resource sharing can also be improved by a common library system.

The reason for joining and the benefits derived from membership are consistent with those observed in other parts of the world. The System Development Corporation (SDC) study, (see Chapter 2), encapsulates the objectives for forming consortia. These are sharing resources to reduce costs, and achieving a single purpose. For Jalloh (2002: 205), another factor is expertise in library automation. He contends that since the introduction of computers in libraries in the 1960s, librarians have continued to seek ways of leveraging resources through virtual catalogues and document delivery services. It would appear that the sharing of resources is the main reason for forming a library consortium, and a common library system is seen as one of the means of enhancing the benefit of resource sharing further.

In the Underwood and Smith (2005) study, some members of GAELIC indicated desirable benefits, which have not yet been provided by the consortium. These include:

- more lobbying for funding both nationally and internationally;

- having a national and regional portal where members would access resources;

- proactive investigation of LIS developments such as ICT;

- subsistence and traveling allowances for outlying members;

- skills development;

- consortium pricing for INNOPAC modules; and

- more visits and exchange among institutions.

Generally, members are satisfied that they have derived the benefits they expected from consortium membership, especially with regards to the acquisition of the INNOPAC library system, the support that they need from other member libraries and networking.

The four factors for successful management of a library consortium that were mentioned are: governance, funding, technology and common purpose were all considered important. Governance and common purpose were rated extremely important, while funding and technology were considered important. This accords with factors cited by Allen andand Hirshon (1998), Woodsworth (1991) and Marais (2003). Common purpose seems to be the *raison d'être* of library consortia (see Chapter 2). For libraries to come together, they must wish to achieve a common goal. Although there may be different institutional policies and priorities, these should not hinder initiatives to achieve a common goal.

Governance is another important factor because to manage any organisation effectively, a governing body is required to deal with both the short and long term activities. It is necessary to have policies in place to guide the management process, including rules and regulations that all member libraries should adhere to. Communication and

representation by all members in governing structures of a consortium, for example, are vital.

Technology has an important role to play in the management of a consortium. Technology impinges on crucial issues, such as communication, access to information and resource sharing in general. Without appropriate technology, the essence of having a consortium would be questionable. Not only does technology provide fast and easy access to information, but it also increases productivity, assists in decision-making processes and reduces costs. The implementation of a common library system in all GAELIC libraries is a worthwhile initiative that enhances resource sharing. The INNOPAC library system in FRELICO is currently only implemented in UFS and CUT, the other two libraries (Mangaung Local Municipality Library Service and Sasol Library) are still using their own systems. Respondents believed FRELICO would operate better if all its members were using the same system as is the case with GAELIC, confirming the importance of a common system.

Funding is another vital factor that respondents agree determines the successful management of a consortium. Woodsworth (1991) observed that co-operative efforts in libraries rarely flourish without reliable funding. Acquisition of the INNOPAC library system was expensive for both GAELIC and FRELICO, hence the need for funding from the Andrew Mellon Foundation in the USA. It is also important to obtain commitment from the local institution to fund some of the running costs of consortium initiatives.

Regular communication with the management bodies is necessary to keep up-to-date on consortia activities.

5.4 Experiences with central and decentralised system server models

According to Table 32, there are more advantages to using a central system server than decentralised servers. The advantages have been highlighted by SEALS, which is the only consortium in South Africa that has implemented the INNOPAC library system using a central server model. SEALS consists of four libraries and its server is managed by the IT division of Rhodes University (section 2.4.3.1.5).

Responses from SEALS' project manager show that member libraries have access to each others' holdings, which contributes positively to their resource sharing initiatives. Another advantage is simultaneous upgrades, as this is done once and all members automatically derive the benefits. This saves installation, staffing, hardware, software and related equipment costs. SEALS does not seem to be experiencing any problem with this model.

GAELIC implemented the INNOPAC library system using a decentralised model, which appears to have had a negative impact on training and support in general, as individual libraries decide on which additional modules to buy and when to upgrade their systems. Thus GAELIC presents collective training, so members are not on the same level, which makes training less effective. Library-to-library support can also become difficult when members use different versions of the system.

Another disadvantage of a decentralised server is that members cannot directly access each other's holdings. This is a hindrance as the essence of a consortium is to enable members to share resources and to have easy access to records of other consortium members. Cost is another negative aspect of multiple servers, as individual members have to:

- employ system managers;
- purchase hardware and software;
- purchase necessary upgrades;
- pay for training; and
- take care of the general maintenance of the system.

As indicated in Section 4.7, GAELIC members raised concerns about a central server and their relationship with their IT departments and about control of the server. (Underwood and Smith: 2005). However, the benefits of a central server seem to outweigh any concerns.

5.5 LELICO automation status and its system requirements

LELICO was launched in 2003 with seed funding from the Open Society Initiative of Southern Africa (OSISA). It initially ad five member libraries, which were academic libraries, one was a special library and one a national library. Interviews revealed that this number has since increased to 12 with the inclusion of seven special libraries. Questionnaire responses shows that members have derived benefits such as training

workshops, access to electronic databases like EBSCO, and the provision of refurbished computers through the assistance of OSISA. Section 4.6.1 shows that other expected benefits include the joint acquisition of a common library system and additional training workshops. Some members feel that the consortium should market its services better to improve its reach.

Of the 12 LELICO libraries, only four are computerised. Two of these use Q andA and CDS/ISIS, which do not have all the basic library modules. A proper library system should cater for at least four modules, namely, Acquisitions, Cataloguing, OPAC, and Circulations. Subsequent interviews revealed that the National Library is in the process of computerising, using Inmagic DBTextWorks, while the other seven libraries still use manual systems. Table 34 illustrates problems with the library system installed in the four automated libraries, including not being able to upgrade, and a vendor who cannot be found and therefore does not offer support. NUL mentioned that ITS has a small user group and that its system, which is still text based, should be a web-based system. LIPAM is unable to access the loans module directly. LPPA's CDS/ISIS does not have other important modules, like Acquisitions and Circulations. Follow up interviews showed that LCE's library system has completely shut down and cannot be repaired since the vendor can longer be traced. No other library uses Bookworm and it is, therefore, not possible to get any assistance.

The major reason;n given for not automating is a lack of funds. Most member libraries have very small budgets, which are inadequate. The purchase of a library system would, therefore, overstretch existing budgets.

5.5.1 Proposed activities for LELICO

A list of proposed activities suggested for LELICO include:

- installation of a common library system;

- engagement in fundraising activities;

- improvement of communication

- provision of professional development opportunities;

- partnership with regional consortia; and

- expansion of membership.

According to Table 35, the installation of common library system was ranked highest among the activities proposed for LELICO. The majority (67%) of LELICO libraries are not yet computerised, hence the need to have a library system within the consortium. One aim of LELICO is to share electronic resources through joint subscriptions and purchasing. The current lack of automation of the majority of LELICO members prevents electronic resource sharing.

The second priority is engaging in fundraising activities. Raising funds for the consortium is important as even the purchasing of a common library system has huge financial implications. As illustrated in Table 28, implementing the INNOPAC library system in

GAELIC and FRELICO was expensive despite the initial seed funding from the Mellon Foundation. LELICO would need to raise funds for this kind of project, especially given the inadequate budgets of its members. This is followed by the improvement of improvement of communication. Interviews revealed that communication among members takes place via telephone and at meetings. Most members have e-mail addresses, but some are not able to check their e-mail regularly as they do not have access to either the Internet or e-mail systems. The poor information technology infrastructure negatively affects communication. It is suggested that LELICO lobby for better infrastructure in libraries, which would also improve communication among members. It should be noted that LELICO now has a website (www.lelico.org.ls), which is a strategic communication tool for both members and external stakeholders. However, the unavailability of internet services to most LELICO members reduces the positive impact that this website could potentially have on members.

The next pair of priorities involves the provision of professional development opportunities and partnerships with regional consortia. LELICO is already providing some professional functions such as training where members acquire professional skills. These initiatives should be strengthened by expanding the types of functions. Partnering with regional consortia would be beneficial to LELICO, which would learn much from longer-established consortia such as those in other Southern African consortia. Such partnerships would enrich programmes like staff exchange and attachments.

The final priority raised is about expanding membership. 'Expansion of membership' was last on the list of priorities, however, since its inception in 2003 with five members, LELICO has grown to 12 members within three years. More members would improve the status of libraries in Lesotho and widen participation in electronic resource sharing.

5.5.2 System requirements for a LELICO common library system

All respondents indicated the need for basic library modules for the LELICO common library system. The modules suggested are: Acquisitions, Cataloguing, Circulations, and OPAC. The Serials module was chosen by 60% of LELICO library heads, whereas Management Information, Archives and Binding was chosen by only a few. The modules cited seem to correspond with the existing modules in these libraries. For example, libraries that do not currently handle Periodicals and Archives did not choose these modules for the consortium. However, it is important to include all the modules to cater for the needs of all libraries. Those that do not currently need these modules might need them in future as they expand.

System properties were listed for members to rate:

- Functionality;

- Usability;

- System support; and

- Vendor.

The cost factor is dealt with in the following sub-section.

The functionality elements of availability, accessibility, reliability, ability to customise, security, and ability to upgrade were all considered important (see Table 36).Optimum utlilisation of the system would depend on these elements hence the need to have them all. The performance of functionality in the INNOPAC library system in GAELIC and FRELICO shows that this system is performing well, with a score of over 3.5 on all the functionality elements. The three Southern African libraries rated the functionality of the INNOPAC library system as good.

The usability of the system is another important aspect whose elements are rated in Table 37. The usability elements are: user-friendliness, ease of use, error messages and help messages. Although all the usability elements scored over 3.5, LELICO library heads thought that user-friendliness (Score – 4.7) and ease of Use (Score – 4.6) were especially desirable for a common library system. Since most of the LELICO member libraries are not automated, it is crucial to have a system that it is easy to use so that members need not consult specialists.

System support is another element that was rated by LELICO members, and Manuals, Tutorials, Initial and Ongoing training, and New releases were considered important. Initial training was considered extremely important (score – 4.4). Initial training is part of the installation package of the INNOPAC library system, it is therefore offered free of charge by the vendor. Generally, the INNOPAC library system scored satisfactorily on all support elements.

Elements relating to the vendor of the system (accessibility, availability, helpfulness and response rate) were all considered important for a LELICO library system. However, the response rate of the INNOPAC library system was poorly rated as shown in Table 39. Different time zones between the USA and the Southern African region seem to be the main factor. Given the importance that is attached to response rate, it would be advisable to have a regional office to timeously respond to queries. Long lag times are a problem that negatively affect the overall performance of the system, especially given the history of Lesotho libraries that have no automation experience, one would expect there to be more queries submitted to the vendor.

5.5.3 Cost implications for a LELICO common library system

Table 28 shows the expenses that some GAELIC and FRELICO libraries incurred. The INNOPAC library system is prohibitively expensive. The smallest expense was that of MEDUNSA (R680 000), which did not include installation costs and staffing. UNISA incurred the heaviest installation costs of R4 121 295, and staffing costs of R741 455. Table 40 shows budget allocations for LELICO member libraries, and indicates that the best funded library (NUL) had a total budget of R 5 000 000 in 2006, while the least funded library (LPPA) had a budget of R17 000 for the same year. Implementing the INNOPAC library system in these libraries would over-stretch existing budgets.

One way of cutting costs would be to purchase the system jointly as a consortium, even though it would still be expensive. Finding a funder who could cover installation and data conversion costs would improve matters. Philanthropic organisations such as the Mellon

Foundation, the Kellogg Foundation and the Bill and Melinda Gates Foundation, which have assisted libraries in the past, could be approached. Even with initial funding, LELICO libraries would have to consider the running costs of the system. According to BCA, the annual licence for the INNOPAC library system alone is estimated at R95 000, which is way above the total budget of some LELICO member libraries.

Alternatively, LELICO would have to find a cheaper common library system. A thorough investigation would have to be undertaken to identify a system that would meet the requirements of the consortium. Such a system would ideally have to be reputable and have a large user group that could share its experiences with LELICO. However, given the geographical location of Lesotho, it would be more practical to acquire a system that is compatible with most South African libraries systems.

5.6   Conclusions

This chapter interpreted the data that was presented in Chapter 4. Data interpretation was done according to major categories of analysis identified in Section 5.1. These categories relate to the INNOPAC library system, the benefits and management of a library consortium and the system requirements of LELICO.

The following points summarise the interpretation presented in this chapter:

- The general performance of the INNOPAC library system is good according to members of GAELIC, FRELICO, and the three selected Southern African libraries;

- The main problem encountered with the INNOPAC library system was the slow response rate of the vendor. This was attributed to the difference in time zone between the USA and the Southern African region;

- The INNOPAC library has had a very positive impact on GAELIC and FRELICO libraries. The system has contributed to increased productivity, better customer service, better use of technology and better decision making within these consortia. Access to other consortia members was rated average as members do not have direct access to each others' holdings;

- Even though the system is expensive, its benefits are said to outweigh the costs;

- The motivations for joining a library consortium include access to a common library system, resource sharing, joint purchasing and development opportunities and networking. These reasons have translated into real benefits for GAELIC and FRELICO members. Even though LELICO members derive some benefits such as training workshops, access to electronic databases, resource sharing and networking, they mentioned the acquisition of a common library system as the main benefit expected from their membership of LELICO;

- The success factors in the management of a library consortium relate to governance, funding, technology, and common purpose;

- Most LELICO members are still not automated, which restricts electronic resource initiatives;

- The four LELICO members that have automated are experiencing problems with their systems. These include: inability to upgrade, unavailability of system support, small user group, and inability to accommodate other modules;

- Proposals of activities for LELICO in order of priority are: installation of a common library system; engagement in fundraising activities; improvement of communication; provision of development opportunities; partnership with regional consortia; and expansion of membership;

- Modules required for the LELICO common library system are: Acquisitions, Cataloguing, Circulations, OPAC, Serials, Management Information, Archives and Bindery;

- All elements of functionality, usability, system support and system vendor were considered important by LELICO members;

- Most LELICO member libraries have small budgets, which are generally considered to be inadequate for the needs of individual members.

In addition to the criteria for performance, other implementation factors are clearly important. Funding is crucial, especially because most of LELICO member libraries are inadequately funded. Funding is needed to cover most aspects the system implementation. Another factor relates to a multi-type consortium. Unlike FRELICO, GAELIC and other consortia in the Southern African region that are academic, LELICO is a multi-type consortium. This unique characteristic requires a system that will respond to the needs of all different types of libraries. LELICO will also need to consider which model it is going to use to manage its common system. Data has shown that a centralised model has more advantages than a decentralised one. Taking these issues discussed into consideration, the Chapter 6 will propose a model for implementing the INNOPAC library system as a common library system in LELICO.