

**Managing Change: Staff Management
During Automation System Migration,
An Oxford University Case Study**

by

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Abstract

This dissertation considers the effective management of staff during automation system migration. It contains an extensive literature review and an analysis of twenty interviews conducted at Oxford University. Differences between the initial move to an automated system, and the move from one automated system to another, are emphasised, and recommendations are given for librarians facing the automation migration process.

It was found that with careful management, staff will react positively towards automation change, and there should be widespread opportunities for their involvement. The prior automation experience and knowledge of staff will make their contributions valuable, but the technological complexities of second generation systems may limit the extent to which support staff can be meaningfully involved. Particular attention needs to be paid to information flows and communication channels, and it is vital that the benefits the new system will bring to jobs and to the library service are highlighted.

It was found that automation training will benefit from building upon prior automation knowledge, and the training should incorporate an introductory session that gives an overview of the system. Timetables and schedules were found to be a particularly important consideration, and automation training should be scheduled within two months of the going live date.

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Chapter 1

Introduction

The management of change is fundamental to librarianship today, and effective human resource management is essential if librarians are to respond successfully to technological developments. This is particularly true of library automation systems which today form an integral part of library operations. They affect virtually every library procedure, and have altered library organisational structures and workflow patterns. They have a direct impact on efficiency and service quality and their management is a key responsibility in librarianship today.

Automation system migration or 'second time around automation' (Sykes 1991, p.33), is when a library upgrades its current system with the same vendor, or replaces it with another from a different vendor. Migration presents librarians with a difficult decision, for automation systems represent huge investments of time and money, and the wrong choice can lead to significant problems over long time periods. Automation is a continuing process and many libraries, who are finding their present system unsatisfactory, are facing automation migration for the first, second or even third time.

Although the reasons for automation migration revolve around technological considerations, the impact of migration centres on people. Libraries are labour intensive, spending more than half their budgets on staff salaries (Jordan & Jones

1995, p.1). Automation migration results in large scale changes which will affect all levels of staff, and effective staff management is essential if libraries are to fully utilise their most important asset. Olsgaard (1989), in his consideration of the physiological and managerial impact of automation on libraries, identifies staff considerations as the most important component in automation and indicates that 85% of all failures in systems implementation can be attributed to people problems. The success of the new system will depend largely upon staff knowledge, skills and attitudes, and planning for automation involves planning for people. Hayes & Belastock (1989), in their account of automating Bentley College in Waltham, Massachusetts, identified the management of staff attitudes and expectations as critical in assuring the success of their automation project. Effective staff management is clearly a prerequisite for automation migration success.

There is a general consensus in the literature that involving staff in the decision-making process is a good thing, and that the more communication the better. Dover (1991, p.19) for example, found in her survey of 109 library authorities, that librarians identified good communication and staff input to be critical during automation. There is also a strong emphasis on issues regarding training (e.g. Freeman & Clement 1989, Hoffman 1991, Epple, Gardner & Warwick 1992), and some consideration of managerial style (e.g. James 1987, Marchant & England 1989, September 1990).

There is comparatively little work however, that considers the human implications of system migration - work has tended to focus on the move from manual to

automated systems. Given the rapid pace of technological change, the growing need for automation migration, the importance of staff attitudes and today's emphasis on effective human resource management, it is felt that this would be a profitable area for further study.

Chapter 2

Aims and Objectives

There are various human issues associated with implementing automation including health and safety, ergonomic considerations and job design. However, these are not the concern of this dissertation. Likewise, there are different groups of people that need to be considered during automation including funding bodies, unions and library users, but again these are not within the parameters of this project. The focus of this investigation are those that are most directly affected by technological change - the staff - and this dissertation centres on their effective management during automation migration.

It was felt that staff issues would be different during automation migration to those encountered first time around because:

- staff have automation experience, with familiarity with, and invested skills in, an existing automated system.
- staff may have strong expectations, needs, wants and opinions regarding automation in relation to their individual job roles.
- automation system migration may be implemented under different circumstances than the initial introduction of an automated system, for example under a more compressed timescale.

- new automation systems represent significant advances in technological complexity.
- staff may have used more than one automated system before and have already experienced system migration.

Staff therefore need to be managed differently and given the lack of work that considers the human implications of automation migration the aim of this dissertation was to establish:

- what advice should be given to librarians to effectively manage their staff during automation system migration.

The objectives were to investigate:

- how staff may react to automation migration.
- in what ways, and to what degree, staff should be involved in the decision-making process.
- what constitutes effective communication and how it can best be facilitated.
- what the training objectives should be, and how and when training should be implemented.

Emphasis is given to how automation migration differs and compares to the initial move from a manual to automated system (first time around automation), and the

theory is supported and tested against examples from the literature and an Oxford University case study.

It is therefore hoped that this research will be of value to those facing technological change, and also to those seeking a general understanding of the issues and processes involved in change management.

Chapter 3

Managing Change: A Literature Review

The management of change must centre around the management of people, for no matter how well a change is managed, 'it is likely to be a failure if the organisation as a whole is not prepared to accept the change' (Klobas 1990, p.344). Change demands the acceptance of new ideas and work patterns, and poorly implemented change will have far reaching consequences.

To effectively manage the transition from one automated system to another, it is necessary to establish some understanding of possible positive and negative reactions to technological change. An appropriate strategy to manage migration will then need to be formulated, and an awareness of the theory concerning change management will assist in this task. The key behavioural components in the change process of participation and communication will then be discussed, and the style of management that can best facilitate change will also be considered. This will be followed by an examination of the importance of training, but first the changing nature of automation systems will be outlined to put the following discussion in context.

3.1 Advances in Automation

Automation systems have developed considerably from when libraries purchased turnkey systems in which the vendor supplied the hardware, software, maintenance and development. Such systems, which were first introduced in the U.K. by Geac in 1979, generally concentrated on circulation control, with cataloguing still being done separately, often using a batch system (Leeves 1995, p.19). Automation systems are now used for virtually all library operations; controlling stock, providing community information and generating management information for decision-making. They are fully integrated, offering fast and effective database access, and have high levels of functionality. They are 'open', adopting industry-wide standards, and may be UNIX based, operate on a number of hardware platforms and support all main WAN and LAN protocols. They are increasingly based on client/server architecture, and may be Z39.50 compliant and offer graphical user interfaces (Rowley, 1993).

Pourciau (1992), in his survey of 154 libraries, found that 87 had migrated. Obsolete hardware, lack of functionality, unresolved system problems, long response times, lack of confidence in current vendor, abandonment of system by vendor and user complaints were found to be the most prominent reasons for migrating. Hallmark & Garcia (1992), in their survey of 33 libraries which had changed vendor, found similar results, with the majority of libraries migrating because of a need for increased functionality and improved hardware platform.

Increased activity and size, lack of vendor support and service, lack of confidence in vendor and unresolved system problems were also important.

Automation is clearly a continuing process and Muirhead (1997, p.81), argues that automation as an open-ended process, rather than as a one-off project, has benefits for both the human and economical aspects of systems migration. He highlights how the pace of technological developments and changes in user requirements renders the idea of a five or seven year life cycle for a system obsolete, and argues that systems 'must be able to grow and change organically'.

3.2 Reactions to Migration

In order to effectively manage staff during automation migration, it is necessary to establish some insight into possible reactions to change. During first time around automation there may be substantial resistance to technological change. Morris & Dyer (in press, pp.323-352) highlight how such resistance may originate from fear of the unknown, obsolescence and failure, economic insecurity, computers, changed working practices, changed relationships and increased management surveillance. Bichteler (1987) warns of technostress 'a modern disease caused by an inability to cope with the new computer technologies in a healthy manner', which she found was caused by fear, physical complaints, insufficient planning and inadequate training. Sykes (1991, p.35), in his survey of paraprofessional staff at South Bank Polytechnic, found that the most common reaction was a fear of

computers, whilst Daniels (1995), in her survey of three college libraries, found that support staff feared depersonalisation of jobs and effects on health.

Fine (1986, p.86) however, stresses that resistance to change is a necessary process, slowing down the speed of technological change to allow psychological and social evolution to keep pace, and Morris & Dyer (in press, p.343) highlight how time needs to be allowed for staff to adapt to the change and 'mourn' for the old way of doing things.

During automation migration reactions should be different, as staff already have automation experience and may have previously experienced system migration. During second time around automation, staff acceptance of computers should not need to be considered and concerns about ergonomics, job depersonalisation etc. should not be as prevalent. However, Fine (1986) warns that there will always be some resistance to change, and that the acceptance of a current innovation is no assurance that the next level of change won't be resisted. Moving to a new automation system involves learning a new set of jargon, functions and controls. Staff will have to give up their skills in the old system and invest their time in learning the new, and in this sense, it is comparable to the move from a manual to automated system. Also, there may be concerns amongst support staff that a new, sophisticated automation system will leave them unemployed, under-employed or unable to learn the new system (Hamilton 1995, p.24).

Hallmark & Garcia (1992, p.353) on the other hand found, in their survey of libraries migrating systems, that the unsatisfactory service the current system was providing caused staff to react positively towards change. Positive reactions however, can also be detrimental. Bichteler (1987, p.283) warns of staff with overly positive attitudes who foster unrealistic expectations and neglect their duties to play with the new system, and Morris & Dyer (in press, p.332) note that there is generally a lengthy time lapse between deciding on a new system and implementing it, during which time service must be maintained. Those who have mentally discarded the old system will not operate it as effectively or efficiently.

From the literature therefore, it is uncertain whether staff will react negatively towards migration, resisting change, or positively, welcoming improvements. It is therefore essential that staff are carefully managed and Olsgaard (1987, p.487) notes that it is the paraprofessional staff, who use the system on a day to day basis, who will ultimately determine its success. Staff need to have realistic expectations, and communication, involvement and training are all cited as being fundamental in cultivating desirable reactions. Shaw (1986) for example, in her survey of staff attitudes towards automation at the Indiana State Library, found that staff involvement was instrumental in developing positive staff attitudes, and Jones (1989), in her survey of library support staff attitudes towards automation, found that there was an undercurrent of personal frustration stemming from a lack of involvement. Seventy one percent felt that they should have been more involved in the decision-making process, and that their experience and knowledge had been ignored. Poor communication and low involvement results in negative attitudes

and resistance, and an organisational climate more conducive to change needs to be fostered (Baker 1989).

3.3 Change Management Theory

Change is a natural and continuing process and is essential if organisations are to develop and take advantage of new opportunities (Klobas 1990, p.345). Developments in technology constitute powerful triggers for change, and uses of information technology in libraries are changing at a rate, speed and complexity which requires careful human resource management. Peel (1995, p.30), in his discussion of staff development and the management of technological change, highlights how staff should understand what the system exists to achieve, are fully capable of operating the technology and are motivated to ensure the system succeeds. Thus, as well as ensuring that staff possess the necessary knowledge and skills, a function of training, managing change involves cultivating the right attitudes and commitment, a function of management.

This emphasis on the importance of staff attitudes and commitment are implicit in a five stage model of change described by Stewart (1996, pp.22-32). Stage one is the 'diagnosis' phase where the nature of the problem and the change needed are identified. Stage two is 'identifying resistance' for individuals are unlikely to favour a change unless they perceive it to be beneficial. Stage three is 'allocating responsibility', not necessarily to those with established authority, whilst stage four entails 'developing and implementing strategies.' Here, Stewart notes that the key

to successful change is to promote involvement thereby fostering support. Consultation and the sharing of responsibility makes staff stakeholders in the change, giving them a sense of ownership and increasing their commitment to making it work (Norton 1995, p.28). Stage five is 'monitoring' where progress can be assessed and Fine (1986, p.103) highlights how communication from the bottom up is essential if management is to gauge how the change is proceeding.

Also fundamental to change management is staff motivation to foster an enthusiastic, flexible, positive and committed staff. Studies have shown that staff want to carry out meaningful tasks and get satisfaction from the contribution they make (Rooks 1988). Herzberg found that staff are motivated by achievement, recognition, work itself, responsibility and advancement, and McGregor found that theory Y managers (who believe that staff are willing and able to take responsibility for their own work), tended to produce better results than theory X managers (who believe that staff need to be directed and controlled), with their subordinates showing greater creativity and more innovation (Smith 1996, p.26).

Clearly then, if staff are to be motivated and committed to change, they will need to be involved in the planning and implementing stages of automation migration, and the ways in which this can be facilitated will now be considered.

3.4 Staff Involvement

A key component in change management is staff involvement, and examples of staff consultation and participation are widely propounded in the literature (e.g. September 1990, Pachent 1996). However, there is a lack of detailed consideration of the relative costs and benefits of involvement, the degree to which staff should be involved and the ways in which involvement can be best facilitated, with little distinction being made between the differences inherent in first time around automation and automation migration. This section aims to pull these themes together into a coherent discussion and provide the necessary context for further investigation.

A study by Matherly & Matherly (1985) found that the extent to which staff accepted or indeed welcomed technological change, depended on their level of involvement in its planning and implementation. It was not sufficient for managers to simply inform their subordinates that a change was going to occur. Involvement is fundamental to successful change because it gives staff an understanding of the need for and benefits of change. It gives them a sense of ownership of the change and a stake in its success, reducing resistance and negative reactions, and promoting commitment (Norton 1995, p.28, Fine 1986, p.102, Baker 1989, p.56, Klobas 1990, p.346).

Sykes (1991, p.37) found that during first time around automation at South Bank Polytechnic, support staff lacked the necessary knowledge to be meaningfully

involved in the decision-making process. During second time around automation however, Sykes emphasises that non-professional involvement is vital as staff will have a great deal of practical experience of the old system and will be its shrewdest critics. Such beneficial staff involvement was also emphasised by Begg (1991) in her description of migrating from Geac to Notis at Boston College, Massachusetts. She outlined how involving a broad cross-section of staff in specifying requirements and evaluating systems gave staff a better understanding of the advantages the new system would bring, as well as improving job satisfaction. It also resulted in greater inter-departmental co-ordination and co-operation generally, as a result of staff contacts made. Pachent (1996) continues this theme in his account of choosing a third generation system for Suffolk County Libraries, moving from a Geac system to DS Ltd. He highlights how the importance of involving staff in the decision-making process, drawing on their skills and taking advantage of their experience, was regarded as crucial for migration success. All permanent staff were invited to fill out a questionnaire to specify what they wanted from a new system, and many were invited to system demonstrations and had their comments recorded.

Involving staff in the change process is not an unmitigated good however. Staff need to be involved in the right ways, at the right times and to the right degree. Involvement entails a tremendous investment of personnel time, and causes the decision-making process to be slower and more complex. Drescher et al (1986, p.69) highlights this in her discussion of automation at the Massachusetts Institute

of Technology. Extensive involvement of staff increased their absenteeism from the library, and support staff resented losing their superiors to committee work.

The level of staff involvement needed will depend upon the size of the organisation, the timescale available, anticipated costs, availability of funds, complexity of the proposed system, and the availability of personnel with the necessary qualities and experience (Clayton & Batt 1992, p.12). Stewart (1996, p.31) outlines a continuum of implementation strategies with varying degrees of involvement, and notes that the more significant the change and its impact, as perceived by those affected, the higher the degree of involvement required for success. Therefore, because automation migration results in such large scale changes affecting all levels of staff, an implementation strategy with a high degree of involvement is needed.

It takes thought, time and planning to get people involved, and one popular way is to form a planning committee. Bichteler (1987, p.283) emphasises that the planning committee should be made up of employees from all levels, and should include people who are influential amongst support staff and those who may be sceptical. Pachent (1996, p.222), in his account of automation at Suffolk County Libraries, describes how the project was co-ordinated by a steering committee consisting of sixteen people representing all levels of staff, and included a library assistant and a cataloguer. The committee split into smaller work groups to make detailed decisions, and were also charged with consulting with their colleagues.

3.4.1 Participative Management

Wider involvement of staff is facilitated by participative management. It is widely recommended in the literature for promoting quality, flexibility, innovation and productivity, and is defined by Geary (1994, p.637) as:

opportunities which management provides at workplace level for consultation with, and/or delegation of responsibilities and authority for decision making to, its subordinates, either as individuals or groups of employees, relating to the immediate work task and/or working conditions.

Likert (1961) found that high productivity and job satisfaction derives from freely flowing communication and co-operative teamwork in setting goals, making decisions and evaluating performance, whilst Blake & Moulton (1964) found that broad involvement in planning, decision-making and control results in commitment, motivation and productivity. Marchant (1970 & 1976), in a study of university libraries, found that the more participative libraries had the most satisfied staff, and that participative management forced decisions to be made at the level best suited for effective resolution thus freeing top management for long-term planning. (References cited in Marchant & England 1989, pp.470-471).

Participative management is also widely recommended for facilitating change, allowing staff to contribute information and opinions about those areas in which they have specific knowledge and experience, and to foster commitment and

motivation through involvement (Klobas 1990, p.347). Dakshinamurti (1985, p.350), in a survey to study staff reactions towards automation, found that a participatory style of management was judged to be the most desirable characteristic in a manager. James (1987), in his account of automating Kingston Polytechnic, describes how participation of non-professional staff was actively sought on decisions relating to the system as a whole, and in particular to those decisions which affected a task they performed. He highlights how this prepared staff for automation and helped to reach effective decisions.

September (1990) describes the value of participative management in planning and implementing an automated system at the University of Michigan. Wide staff involvement was facilitated by serving on automation subcommittees, designed to develop specifications for particular modules, which then reported back to a steering committee. This structure was found to minimise resistance, maximise acceptance and increase staff enthusiasm, motivation and morale. Such advantages were found to outweigh the disadvantages of being a somewhat cumbersome and slow process.

A participatory style of management is therefore beneficial for successful change, and needs to pre-exist so that, when a major change such as automation migration occurs, staff are naturally involved in the planning and implementation stages (Dakshinamurti 1985, p.351). Sykes (1991, p.38) warns that a sudden switch from authoritative to participatory management will leave staff sceptical, and Fine (1986, p.97) notes that future libraries will choose flatter participatory organisational

structures in order to respond effectively to change in a fast moving technological environment.

In conclusion therefore, staff involvement promotes motivation and satisfaction. It increases acceptance of, and commitment to, technological change, and results in a more informed, confident staff and a well chosen system. However, despite such advantages, managers are still failing to sufficiently involve their staff. Hallmark & Garcia (1992, p.348), in their survey of 33 libraries which had changed automation systems, found that in 39%, staff members were not involved in the planning or were only marginally involved if the need arose. In libraries where the manager makes all the decisions, staff are left bewildered, sceptical and demoralised, with resistance being the order of the day (Bichteler 1987, p.283). Though time consuming, the consultative process results in smoother operations in the long run (Power 1985, p.149).

3.5 Communication

Communication has been called the lifeblood of an organisation (Rogers & Rogers 1976, p.7), flowing downwards through rules, appraisals, memos, instructions, etc., upwards through reports and meetings, and laterally through social relationships. It can flow through formal or informal channels, and may take the form of verbal, non-verbal, written, spoken or electronic media. Together with participation, communication keeps staff involved and informed.

Saunders & Kwon (1991, p.73) identify communication as the most critical activity in planning and implementing a system change, highlighting how communication permeates all management functions, and affects both how the system change is structured and accepted. Fine (1986) warns that employees must feel and perceive the need for change if it is to be successful and highlights how, during change, people's dependency needs are intensified, increasing the need for effective communication. The importance of communication is also emphasised by Hallmark & Garcia (1992, p.348) who found that most libraries viewed communication as critical to the success of their automation migration project. This section looks at the key roles of communication during change, and discusses some of the mechanisms by which it can be facilitated.

Communication is seen as reducing resistance to change. Oadini (1990), in his discussion of the management of change in a library service, identifies two forms of resistance; systematic and behavioural. Systematic resistance results from a lack of appropriate knowledge and skills, whilst behavioural resistance arises from staff reactions and assumptions. Effective communication can help in diminishing both types of resistance through reducing the uncertainty surrounding the change process. This is also emphasised by Baker (1989, p.56), who stresses how workers who receive clear information about how a change will directly affect the organisation and their role within it, will accept change significantly better than those who did not receive such information.

Communication is also seen as fostering commitment to change. Townley (1994, pp.614-616), discusses how the lack of a formal communication programme fosters low morale, low trust and the pursuit of disparate goals, which are all detrimental to organisational effectiveness and are not conducive to the acceptance of change. An effective communication programme increases the individual's identification with the company and furthers the acceptance of organisational goals, resulting in more favourable employee attitudes, informed involvement and increased productivity. Effective communication will also stimulate interest in the new system and help to create an organisational climate conducive to change.

Johnson (1988, p.43), in her discussion of implementing technological change, stresses how library managers should strive for open communication both horizontally and vertically, formally and informally, and Odini (1990, p.15) emphasises that good communication is two-way, and that feedback is essential to gauge communication effectiveness. However, the ideal is not always easily attainable. Gratton (1983, p.23), in his discussion of automating Derbyshire County Libraries, highlights how some staff were not always kept fully informed because 'at the time of greatest need for communication there is the greatest shortage of time to communicate'. Clearly then, effort is needed to ensure that sufficient exchanges of information are occurring, and the existing organisational structure for communication should not be presumed to be adequate.

Communication may flow along various channels, and Hallmark & Garcia (1992, p.348) found that newsletters, memos and bulletins with titles like 'OPAC Update'

or 'Notelets on Automation' were the most popular methods. Such written communication is useful to keep large numbers of staff informed and up-to-date, but they do not facilitate two-way exchanges. It is therefore important that they are used in conjunction with other methods, such as staff meetings and seminars, where two-way discussion can occur.

It is also important to note that communication patterns have been fundamentally changed by library automation. Electronic mail and electronic bulletin boards have contributed to the breaking down of traditional top-down communication, with members of staff having greater opportunities to communicate across departmental or divisional lines. Also, junior members of staff may today have access to information formerly held only by managers (Lancaster & Sandore 1997, p.10).

3.6 Training

Training is highlighted by Follet (1993, pp.34-35) as being an integral part of the change process, and is an effective way for managers to reduce uncertainty. Fielden (1993, pp.38-39), in his human resource management report, identifies the development and updating of I.T. skills, and training to support the management of change, as key areas for future training provision, recommending that a minimum of 5% of staff time be devoted to training and development. This section looks at some various aspects of training, including training objectives and methods, and highlights how training needs during automation migration are different to those experienced first time around.

3.6.1 The Trainers

The success of any training programme is largely dependent upon the competencies, expertise and motivation of the trainers. Hamilton (1995, p.27) discusses how libraries will negotiate for a specific amount of training during contract negotiations. In smaller libraries the vendor may be able to train all library personnel, but a more common practice seems to be for the vendor to train a core group of library staff, who then have the responsibility for training others. Glogoff & Flynn (1987, p.532) stress that these members of staff must be carefully selected based on their qualities rather than on their availability. They need to be well versed in training techniques and adult learning theory, as well as having a full understanding of the system.

Hallmark & Garcia (1992, p.342), in their survey of libraries migrating systems, found that there were significant problems with vendor training including: a lack of comparison with the old system, a lack of preparation for training, inadequate coverage of some features, variations in quality amongst modules, poor documentation, inadequate training database, poor timing and an inflexible training programme with the wrong emphasis. Librarians felt that it was important that the library dictates to the vendor how training should proceed, rather than the other way round, and it is important to remember that although the vendor knows the system, they do not necessarily know how the library will use it.

3.6.2 The Trainees

Staff training is an integral part of the overall implementation process, and it is vital that staff training requirements are identified in the early stages. Managers need to determine who needs to know what and at what level of expertise, and to do this a training needs analysis may help. Glogoff & Flynn (1987, p.531), in their account of automating the University of Delaware, discuss how a needs assessment was used to establish the automation experience of staff. During second time around automation however, staff are already competent in using an automated system, and it will be most useful to use the experience and evaluation of the first time around automation training to design the second.

3.6.3 Training Objectives

Training for automation requires a different emphasis from first time around automation, and these differences will most clearly manifest themselves in the training objectives:

- Training needs to be relevant, as perceived by the trainees.

There is some debate in the literature as to whether staff need to be knowledgeable about the automation system as a whole, or just those aspects that are specific to their individual job functions. Begg (1991, p.115), in her discussion of migration at Boston College, Massachusetts, found that teaching staff how their specific tasks

fitted into the whole system gave a better understanding of how the library operates, a greater appreciation of the work of other departments and improved the ways in which staff worked with the automation system. Wells (1994, p.74), in her account of automating the libraries of the University of New York at Buffalo, found that some staff appreciated the opportunity to gain an overview of the entire system and learn how their work fits into it, whilst others preferred learning only the skills required for their specific job functions and found the overview confusing.

The key factor in second generation systems however, is that they are fully integrated, with staff accessing more information from different modules, and Hoffman (1991, p.55) argues that a wider understanding of how the modules interrelate is essential for staff to create 'mental maps'. She highlights how automation has increased conceptual demands on staff, as libraries move from a tangible to a more abstract environment. If training is designed to prepare an employee to perform only a specific task, it gives a fragmented vision, and leaves employees ignorant of the nature of library operations and fearful of exploring outside their immediate areas of responsibility. A wider understanding is needed for staff to work effectively.

James (1987, p.53) also points out that students do not discriminate between professional and non-professional staff in seeking information, but simply ask the most convenient person. He therefore stresses that all staff should be able to give informed responses about the work in which they are engaged.

New automation systems usually represent a major leap in technological complexity and capacity, and there is some discussion in the literature as to whether staff need an understanding of how computers work. Sykes (1991, p.39) emphasises that the training needs to focus on the job, rather than on the technology and hardware which may intimidate junior staff. He stresses that it is important to reassure staff that no specialised computing ability is required. Alternatively, other authors argue that some knowledge of computers will help staff understand why things happen and what the error messages mean. This gives staff a greater feeling of control and promotes a more positive image.

Research has also found that training examples need to be drawn from the actual working environment, rather than relying on vendor-supplied documentation. Wells (1994, p.74) found that many staff reported experiencing a lower rate of retention when examples did not reflect their daily worklife, and Glogoff & Flynn (1987, p.530) argue that adults learn best when the training is relevant and builds on past experience.

- Training need to 'unlearn' old habits, as well as learning the new.

Lipow (1989, pp.64-65) discusses how the process of change is made more complex when it involves unlearning old habits as well as mastering new skills. Unlike the move from a manual to automated system where everything is new, automation migration requires learning a different set of functions, and Smith & Borgendale (1988, p.51) highlight how functions may be very similar in the new

system but produce strikingly different results. Training therefore requires time to unlearn, as well as time to learn, and Lipow (1989) argues that a continual learning environment is required to reinforce new skills and make training stick.

- Training needs to proceed from the familiar to the unfamiliar.

Positive transfer training is when skills and knowledge already acquired are transferred to a new setting, and Wells (1994, p.78) states that:

System changes are less intimidating when the presentation of new knowledge is related to existing knowledge. Comparisons between the new and existing systems - including detailed, written descriptions of new ways to accomplish present functions - help staff make connections and synthesise new knowledge into their existing skills.

Epple, Gardner & Warwick (1992, p.87) re-enforce this, and outline how training sessions should relate how tasks performed in the old system will be accomplished in the new. Therefore it is important that as well as highlighting differences, automation migration training should stress system similarities.

3.6.4 Training Methods

Training may be accomplished through classroom sessions, lectures, presentations, demonstrations, visits and computer-assisted learning, and a comprehensive training programme will probably include a variety of methods. Glogoff & Flynn

(1987, p.532), in their survey of library staff, found that staff overwhelmingly requested small-group training with much hands-on experience. Large lectures without practice time were strongly disapproved of, and this was also found by Sykes (1991, p.39).

Eppe, Gardner & Warwick (1992, p.89) recommend scheduling two trainers for each session to help all trainees keep up with the instructor and allow for individual attention to those who are having problems. Wells (1994, p.74) found that having two people share a terminal (which is generally recommended in the literature and by vendors) was found to be unsuccessful, with staff reporting that they preferred to be active during sessions and could not focus when watching someone else do the work.

Begg (1991, p.103), in her account of migration at Boston College, Massachusetts, found that the automation experience of staff was beneficial to training. Staff were more willing to experiment and plunge in second time around due to their broader familiarity and heightened confidence in automation generally. Wells (1994, p.74) recommends mixing staff from different departments for the introductory sessions, which she found created a better atmosphere, illustrating that all levels of staff were learning together.

3.6.5 Training Schedule

There are several aspects which need to be considered when scheduling training. First it is important that sufficient time is allowed for trainees to become confident in what they have learnt, and Hallmark & Garcia (1992, p.342) found that 25% of staff surveyed felt they should have been trained for longer before the system went live. A fortunate 30% were trained for up to two months before going live and this seemed to be optimal. However, Eppe, Gardner & Warwick (1992, p.88) argue that training should be scheduled as close as possible to the date when the new system will be implemented, as trainees are more likely to remember what they have learnt and momentum will be maintained.

Lowry (1985, p.29) notes that procedures need to be established for the continuing training of staff after the implementation of technology commences - after which point, training and re-training will never cease. Wells (1994, p.81) continues this point and highlights how refresher workshops on a variety of topics help maintain staff knowledge of the system and provides the opportunity to teach new skills. Ongoing training is also required to introduce new staff to the system and help staff adapt to any future changes or upgrades. Hallmark & Garcia (1992, p.342) found that some libraries reserved a portion of their total vendor training allotment for these purposes.

3.6.6 Training Evaluation

Training is a time-consuming process, and Dover (1991, p.32), in her survey of 109 library authorities, found that 34% said that automation training affected wider staff training, using up available time and money. It is therefore vital that the effectiveness of training is assessed to ensure that the training objectives are being reached. Wells (1994, p.82) highlights how evaluation can be used to provide an immediate assessment of a training workshop, or collected after staff have had time to use the system to assess the long-term impact of training. Training sessions should then be modified in accordance to the findings. ¹

¹ Further relevant information on managing migration may be contained within 'Planning and Implementing Successful Systems Migration' by Graeme Muirhead which, at the time of writing, has yet to be published.

Chapter 4

Introduction to Oxford University Case Study

4.1 Library Provision at Oxford University

Oxford University is a federation of over forty autonomous colleges and halls. It supports 14,500 students and employs several thousand members of staff (University of Oxford 1995a, p.4). It is an ancient foundation and over the last 800 years has developed the organisational structure outlined in Figure 1. This structure provides a hierarchical framework within which resources can be organised, job activities specified, decisions made and goals met. All major decisions must be proposed by the Hebdomadal Council and approved by Congregation. The General Board of the Faculties decides how most of the University's money should be allocated and sets aside a lump sum for the Libraries Committee. There are 16 Faculty Boards which supervise teaching and research within their faculty, and there are various General Board and Academic Committees (University of Oxford 1994).

The provision of library services at Oxford is closely linked to the historical evolution of the University, and this is reflected in a geographically dispersed and complex organisational structure encompassing over 100 libraries and 500 library staff. These libraries do not form one centrally organised system but are divided

into four different types: central, faculty, departmental and college, each with differing user groups, governing bodies and processes of funding (see Figure 2).

Figure 1: Organisational Structure of Oxford University

(Adapted from University of Oxford 1994, p.1/11, with additional information from University of Oxford 1995a and 1995b).

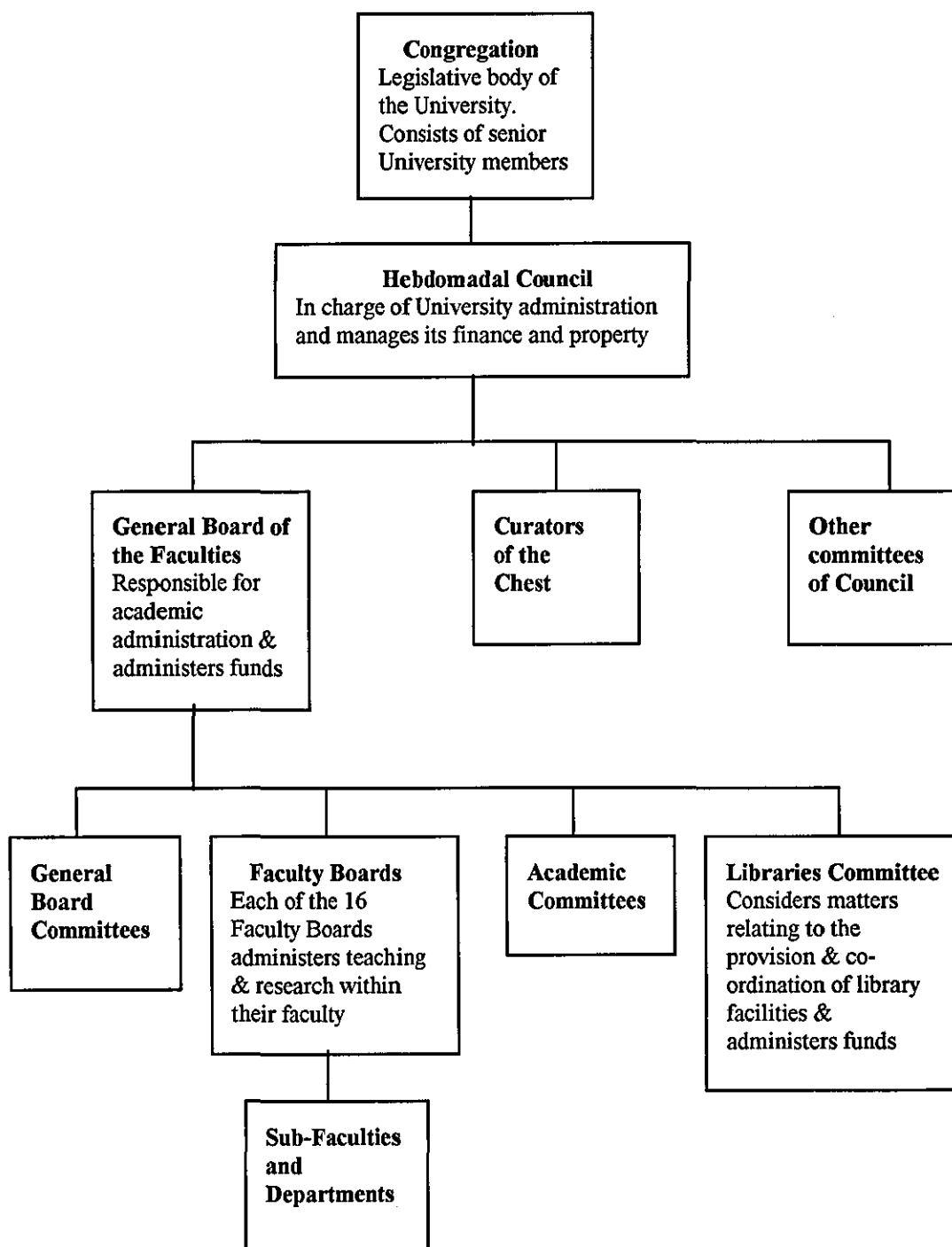
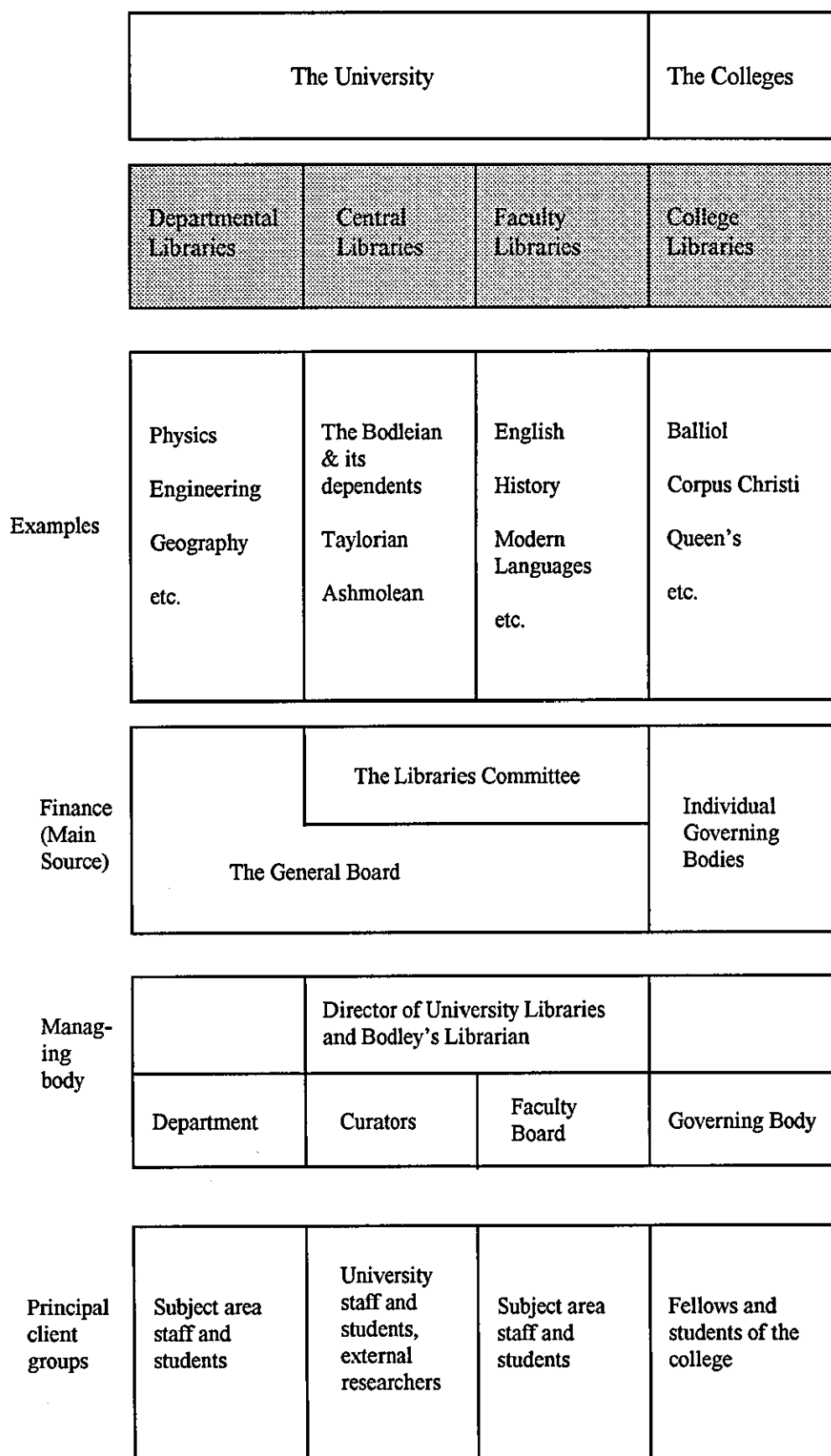


Figure 2: Organisational Structure of Oxford University Libraries (Robb 1997).



The central libraries consist of the Bodleian (and its dependants), the Taylorian and the Ashmolean. These are reference collections of world importance and are funded via the Libraries Committee. Similarly funded are the faculty libraries which primarily grew to serve the needs of undergraduates in the Humanities and Social Sciences fields, and, together with the central libraries, are overseen by the Director of Library Services and Bodley's Librarian. Departmental libraries tended to develop to meet the needs of researchers in the Sciences fields, and these are funded from their department's General Board grant. Finally there are the college libraries which are funded and managed by the college and generally only admit college members (Mills & Robb 1997).

Such differences in funding and management have important implications for automation and equipment. Faculty and central libraries are funded from the Libraries Committee and compete against each other for funds. Departmental libraries have to compete against the rest of their department for money, and the funds allocated to them will vary depending on the individual nature of their department. College libraries must argue their case to their college administration who may or may not allocate them sufficient funds for the purchasing of computer upgrades, printers etc. Therefore, libraries are in varying positions to take advantage of automation advances.

Some degree of collection development co-ordination is achieved through Committees on Library & Information Provision (CLIPs), which rationalise collection development across libraries in the same subject area. Social contact

between libraries is encouraged through the Annual Conference, termly seminars, "brown bag lunches" and training sessions (Mills & Robb 1997).

4.2 History of Automation

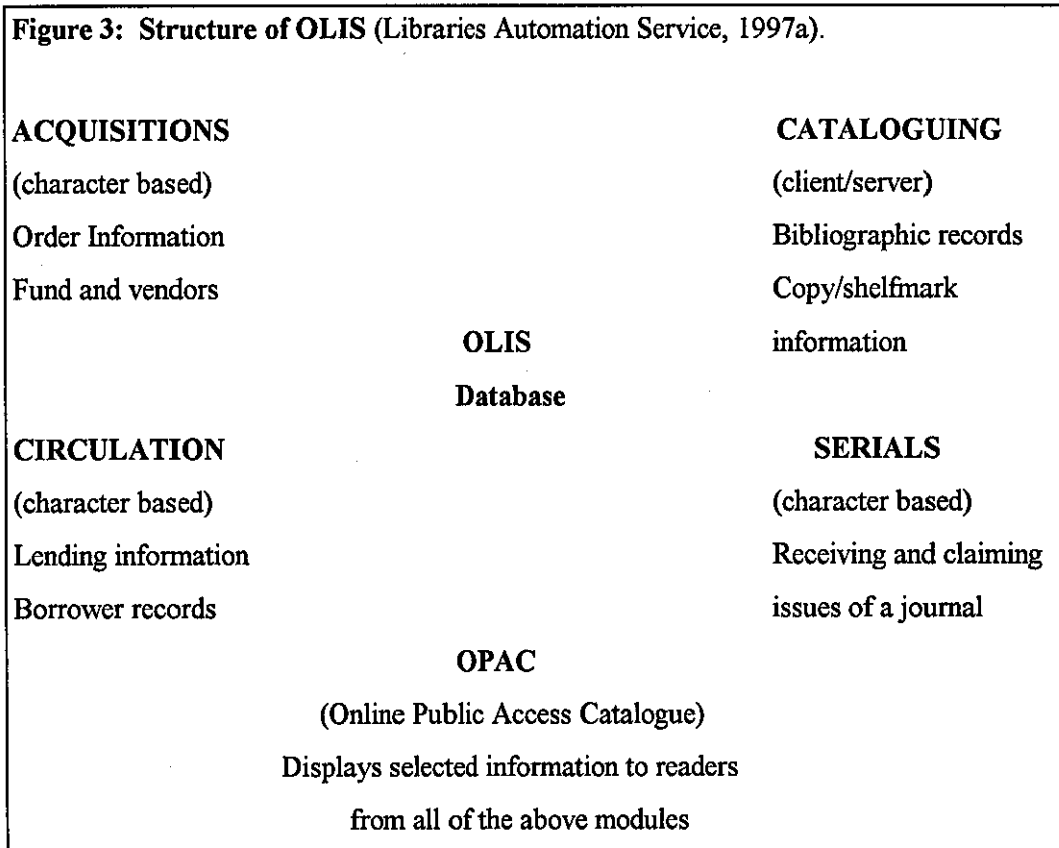
In 1981 the University set up a Working Party on Automation in University Libraries. It reported in 1983, and the outcome was a pilot project based at the English, Modern Languages and Social Studies faculty libraries. Using the OCLC LS2000 system, 150,000 records were converted, and the OPAC was introduced in 1985. The success of the pilot project, together with the Report of the Bodleian Working Party on Catalogue Automation, convinced the General Board that automation should be introduced in all University libraries as soon as possible.

After much deliberation and extensive consultation amongst staff (see Chapter 4.3), an operational requirement was written and distributed to potential suppliers in December 1986. In August 1987 a contract was signed with IBM for their DOBIS/LIBIS system, and it was decided to call it OLIS (Oxford Library Information System). Cataloguing went live in September 1988 and the OPAC was introduced later, in April 1989 (Crawshaw 1991).

As the University grew and more libraries joined OLIS, the DOBIS/LIBIS system began to pose limitations in terms of disc space and the number of simultaneous users. Its file size of 4 Gbytes restricted retrospective catalogue conversion projects, its limit of 280 simultaneous users prevented growth and the software

was prone to crash (Robinson 1997). A new system was therefore needed and an invitation to tender was drawn up.

After extensive consideration, the Geac ADVANCE system was chosen, largely to comply with the University's I.T. strategy which specified movement towards client/server architecture. The system is outlined in Figure 3 and consists of GeoCAT (cataloguing), acquisitions, serials and the OPAC.

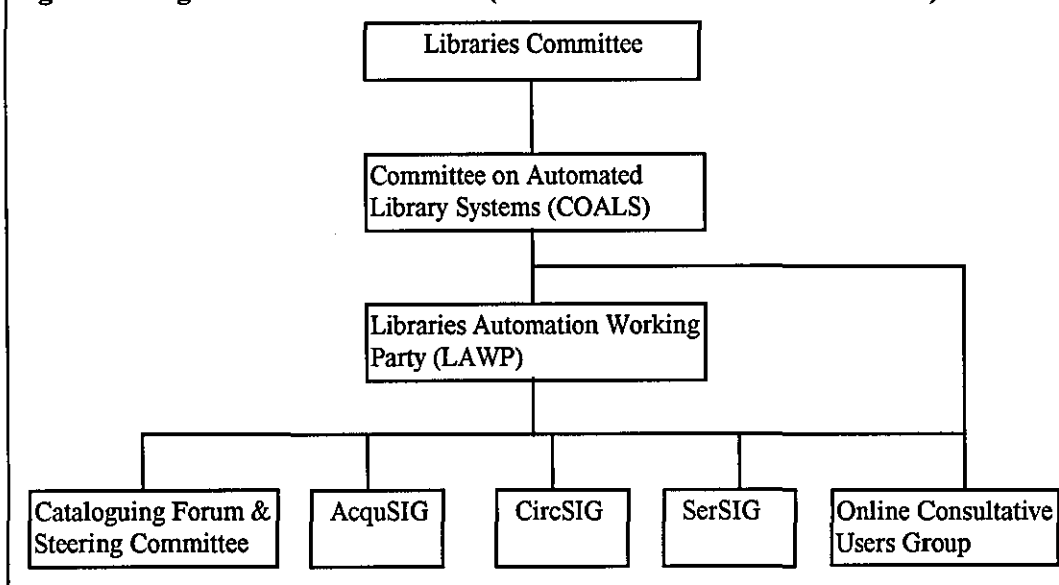


4.3 Organisation of Automation

OLIS is developed and maintained by the Libraries Automation Service (LAS), a team of 12 people funded by the Libraries Committee. They offer libraries advice and assistance on automation matters, and staff a telephone help-line. They are responsible for providing automation training for the OPAC, acquisitions, circulation and serials modules of OLIS. Cataloguing training is organised by the Bodleian. The LAS are also involved in retrospective conversion projects, are investigating the potential of image processing, and edit and produce the automation newsletter 'OLIS News' (Libraries Automation Service 1997b).

Automation issues are discussed through a hierarchy of committees, outlined in Figure 4. These were first established during the initial planning and implementation stages of DOBIS/LIBIS and have subsequently developed in response to changing demands.

Figure 4: Organisation of Automation (Information from Mills & Robb 1997).



At the bottom of Figure 4 are the special interest groups (SIGs), who meet to discuss aspects of a particular module. The Online Consultative Users Group discusses the OPAC module, and consists of librarians, students and fellows. AcquSIG (acquisitions), CircSIG (circulation) and SerSIG (serials) originally consisted of representatives from all interested libraries, but as more libraries began to use more modules, AcquSIG and CircSIG grew too large and had to adopt the steering committee and forum structure of the cataloguing group. The forum meets whenever there are issues to discuss and consists of all who wish to attend. They hear the minutes of the meetings of the steering committee and ask questions. The main role of the steering committee is to work out the details and during automation migration this involves specifying requirements for the invitation to tender and assessing vendor responses. These groups (with the exception of the Online Consultative Users Group whose Chair sits on COALS), then report to the Libraries Automation Working Party (LAWP) which consists of the Chairs of the SIGs and managers within LAS. Its role is to advise the Director of LAS and to submit reports to the Committee on Automated Library Systems (COALS). COALS then considers the views expressed, takes decisions and makes proposals to the Libraries Committee which then reports up to the General Board. Approval at this stage is generally a formality.¹

¹ Interview with Margaret Robb, Library Liaison Manager, LAS, Oxford University, 6th May 1997.

4.4 Implementation of Geac ADVANCE

Migration to, and implementation of, Geac ADVANCE occurred module by module, and within this library by library, between August 1996 and April 1997. Under-delivery by Geac and additional work involved in federalising the system caused some delays, and the original implementation schedule had to be modified. Those libraries that were smaller and had less complex records tended to be migrated first for any one module.

The order of module implementation is summarised in Table 1, and in view of the beginning of the financial year in August, the acquisitions module was implemented first. The exception to this were those libraries using the related serials module which, owing to incomplete serials enhancements, were migrated in November. Circulation was implemented in the two weeks preceding the beginning of term in October, and by 15th December 1996, all libraries using the acquisitions, serials and circulation modules were successfully migrated. The cataloguing module, which was to have been implemented first, did not go live until April 1997 (and this is discussed further in Chapter 5.5).

Table 1: Module Implementation Schedule (Information from ²).

Module	Month Implementation Completed
Acquisitions	August 1996
Circulation	October 1996
Serials	November 1996
GeoCAT	April 1997

Staff were kept informed about automation changes through formal communication channels (largely following the structure outlined in Figure 4), and through informal personal contact. The main vehicle for disseminating automation information to staff in general, was through the automation newsletter 'OLIS News'. Other communication channels used included email, log-on messages and mailing lists.

To give staff the opportunity to find out more about the general procedures involved in migrating, and to acquaint them with the Geac system, demonstrations were held in May 1996, and the schedule is outlined in Table 2. The sessions ran for two hours, one third of which was taken up with the demonstration and the rest devoted to questions and answers. Some of these questions and answers were then published in OLIS News for wider consumption and included questions concerning terminology, screen layout and comparisons to the old system (OLIS News 6 (5) 1996). The GeoCAT module was unfortunately not ready for viewing.

² Interview with Margaret Robb, Library Liaison Manager, LAS, Oxford University, 9th August 1997.

Table 2: Geac Demonstrations (Information from OLIS News 6 (3) 1996 and ³).

Module	Date	Attendance
Acquisitions	6.5.97	30
	10.5.97	40
Circulation	6.5.97	30
	10.5.97	40
Serials	9.5.97	30
OPAC	7.5.97	60
	8.5.97	40
	9.5.97.	30
Total		300

To prepare staff for the arrival of Geac an extensive training programme was run. Staff training needs (except for cataloguing) were assessed in 1995, when OLIS member libraries were contacted by the Library Liaison Manager about the numbers of staff who would need training and the type of training preferred. From this the number of trainers and days of training required were evaluated, and it was found that staff overwhelmingly requested that the training be organised centrally (Robb 1995). The resultant training programme is summarised in Table 3, for which three different training databases were used; 'live' for the OPAC module,

³ Interview with Margaret Robb, Library Liaison Manager, LAS, Oxford University, 9th August 1997.

'train' for the cataloguing module, and 'train' and 'test' for the acquisitions, circulation and serials modules (OLIS News 6 (9) 1996). In addition, an introductory session to Windows 95 was run by Oxford University Computing Services, and supplementary cataloguing training sessions were also offered, including GeoCAT refresher training which was delivered to 163 staff in November 1996.

Table 3: Geac ADVANCE Training Schedule (Information from OLIS News 6 (2) 1996 and ⁴).

Module	Dates	Staff Trained
Acquisitions	1.7.96 - 26.7.96	82
Circulation	5.8.96 - 5.9.96	68
GeoCAT	19.8.96 - 2.10.96	210
OPAC	9.9.96 - 4.10.96	288
Serials	23.9.96 - 27.9.96	20

There are now 74 libraries currently using the Geac system for cataloguing, 33 for acquisitions, 21 for circulation and 6 for serials control. Four libraries (Corpus Christi College, Nuffield College, Queen Elizabeth House and Social Studies) use all four modules, and a further 10 libraries use three (Neate 1996).

⁴ Interview with Margaret Robb, Library Liaison Manager, LAS, Oxford University, 9th August 1997.

Developments to the Geac system are ongoing and future enhancements planned for OLIS include GeoPAC and GeoWeb client/server OPACs, integrated inter-library loans, electronic ordering and invoicing and an automated stack request system (Robinson 1997).

4.5 Research Methodology

The aim of this case study is to use the experience of automation change at Oxford University to gain greater insight into the automation migration process. It seeks to help answer the original objectives of this dissertation by investigating how staff may react to automation migration, how important involvement is considered to be, in what ways involvement is accomplished, how effectively information is communicated and what constitutes effective training. It is then intended that this information, together with the literature search, will enable constructive recommendations to be formulated and set in the wider context of advice to managers changing their automation system.

It was decided that the most effective way to conduct the research would be to hold a series of interviews to collect in-depth, qualitative information. Questionnaires were rejected as a research technique as being too superficial and impersonal to reveal any substantial depth of information, and it was felt that the flexibility of interviews, to prompt in the context of the discussion, would be invaluable in developing the questions and answers.

4.5.1 Formulation of Interview Questions

This section describes the formulation of the interview questions. Each question is preceded by the original objective to which it relates, and a summary of the relevant literature by which the questions are shaped. The result is a semi-structured interview format in which the questions are designed to be open whilst at the same time ensuring a consistency of approach. It is therefore hoped that the interview questions will add to, and develop, the issues discussed in Chapter 3.

Objective 1: How staff may react to automation migration.

Literature summary:-

- Staff may react negatively to change, resisting giving up their old skills and having to learn new skills.
- Staff may react positively to change, welcoming improvements.
- Overly positive reactions may be detrimental to change.
- Staff attitudes are a product of management.

Questions:-

How did you feel changing to a new automation system?

Prompts: Did you welcome the change?

Did you feel reluctant to give up your knowledge and skills in the old system?

Did you feel under increased pressure or stress?

Did you feel that the new system would be an improvement?

Prompts: Why?

Is the new system an improvement?

Objective 2: In what ways, and to what degree, staff should be involved in the decision-making process.

Literature summary:-

- Migration involves widespread changes affecting all levels of staff, and requires a high degree of involvement for success.
- Staff involvement promotes a better understanding of the need for and benefits of change. It fosters acceptance, motivation and commitment to change. It results in a more informed and confident staff.
- By utilising staff experience and specialised knowledge, a more effective decision can be reached.
- Widespread involvement of staff is facilitated by participative management.
- Involvement entails a tremendous investment of personnel time and causes the decision-making process to be more complex and slower.

Questions:-

Were you involved in any aspects of the decision-making process?

Prompts: How were you involved?

Did you attend any meetings, forums or demonstrations?

Did you feel free to express your views?

Would you have liked to have been more or less involved in the decision-making process?

Prompts: What do you see as the advantages of such involvement?

What do you see as the disadvantages of such involvement?

Are there any other aspects that you would have liked to have been involved in?

Objective 3: What constitutes effective communication and how it can best be facilitated.

Literature summary:-

- Communication flows upwards, downwards and laterally. It may be formal or informal. Effective communication is two-way.
- Communication may flow along various channels. It can be verbal, non-verbal, written, spoken or electronic.
- Communication reduces resistance to change and fosters commitment.

Questions:-

How were you kept informed about automation changes?

Prompts: Did you regularly read OLIS News?

Did you read OLIS News in paper or electronic format?

Did you find the articles in OLIS News useful?

Do you participate in mailing list discussions? ⁵

For SIG Chairs: In what ways do you communicate?

Do you feel that you were kept sufficiently informed?

Are there any other methods of communication you would have preferred?

For what reasons is communication important to you?

Generally speaking, how good do you consider communication to be within your library?

Objective 4: What the training objectives should be, and how and when training should be implemented.

Literature summary:-

⁵ Mailing list discussions were only introduced very recently.

- It is beneficial for staff to have an understanding of how their work fits into the system as a whole.
- It may be beneficial for staff to have some understanding of how computers work.
- Training examples need to be drawn from the actual working environment.
- Training needs to proceed from the familiar to the unfamiliar.
- Training is best accomplished through small group sessions with much hands-on experience.
- Training should be scheduled close to the implementation date, but sufficiently in advance for staff to build up confidence.

Questions:-

What training did you receive in preparation for the new system?

Did you find this training satisfactory?

Prompts: Was it pitched at the right level?

Did you have sufficient opportunities for hands-on experience?

Was the training sufficiently relevant to your daily working life?

Was the documentation useful?

Were there any other areas that you would have liked to have been covered or covered more fully?

How much reference was made during Geac training to the old DOBIS system?

Prompts: Was this helpful? / Would it have been helpful for Geac to have been related more to the old system?

How soon in advance of moving to Geac did you receive your training?

Was this timing satisfactory?

When, ideally, would you have liked to have received your training?

The full interview question sheet used during the interviews, complete with an initial section to collect background information and a final section to pick up on any comments or views not covered, is given in Appendix A.

4.5.2 Selection of Interviewees

It was decided that in order to sample a representative cross-section of staff, the following criteria needed to be fulfilled:-

- All types of library must be represented.
- Different levels of staff need to be represented.
- Different job responsibilities and OLIS modules need to be represented.
- Interviewees need to have experienced the migration process.

- To facilitate comparable responses, the interviewees need to have used the appropriate DOBIS module for at least two years prior to moving to Geac.

In consultation with Margaret Robb ⁶, a sampling framework of all suitable libraries was compiled. It was then stratified according to library type (i.e. central, faculty, departmental and college), from which libraries were randomly selected. Twenty five potential interviewees were then identified in accordance with the above specifications, and it was felt that this number would achieve a balance between sample size and time constraints.

One interviewee was approached by telephone and an appointment made. This first interview was used as a pilot study to check the clarity of the questions and to time the interview length. The rest were contacted by letter (see Appendix B), followed by a telephone call to arrange a suitable time. In total, 20 members of staff expressed themselves willing and available to participate. The interviews were conducted during June and the interview schedule is outlined in Appendix C.

⁶ Interview with Margaret Robb, Library Liaison Manager, LAS, Oxford University, 20th May 1997.

Chapter 5

Oxford University Case Study Results

5.1 Reactions to Change

Overall a positive response was received to the question 'How did you feel changing to a new automation system?' Responses such as 'I welcomed the change', 'I was looking forward to it', 'I felt very open and interested' and even 'I like change' were common, and this strongly positive attitude supports the findings of Hallmark & Garcia (1992, p.353) and differs to those reported during first time around automation (Sykes 1991, Daniels 1995).

The introduction of a new system was also seen by some as bringing a breath of fresh air in general to their libraries. One described how the new system had given his work a new lease of life and had sharpened his cataloguing skills. Many welcomed the chance to learn something new and another emphasised how the new system had given his library 'the ideal opportunity to review procedures and working patterns'.

In conjunction with this however, there was also an undercurrent of some apprehension, primarily amongst those with positions of key responsibilities. The opinion here was more of resignation to automation change as something 'necessary' and 'inevitable', and this feeling was also shared by some college

librarians who generally worked on their own. Despite the workload involved however, their responses still contained some positive comments with most indicating that they were 'looking forward to the challenge'.

There was also a wider appreciation amongst staff in general of the difficulties involved. One librarian described how her main doubts were about the proposed time schedule, and in the light of this concern, delayed employing a new cataloguer. Another librarian commented 'I realised there would be problems along the way, but I had trust in those buying the system'.

Four members of staff described how their reactions to the new system changed during the selection and implementation process. One cataloguer related how she initially felt quite negative about migration and thought that learning a new system would be difficult for her. However, the change proceeded smoothly and she identified this as being due to her previous experience of automation giving her greater confidence in learning the new system, and this was also found by Begg (1991, p.103). Another member of staff felt initially stressed and negative due to concerns about potential complications involved in installing new software in the library. However, she received good support during the transition and found the process to be relatively painless. She also identified training as being an important step in developing a more positive attitude. A third described how the early demonstrations of the new system were instrumental in shaping her positive attitude, with the Windows environment being particularly impressive. Lastly an interviewee described how he felt slightly suspicious about the new system in the

initial stages. He felt it would be difficult to improve upon the DOBIS circulation module and felt concerned about negative rumours he had heard regarding the system's response times. Once the system had arrived however, he found the change process to be exciting and welcomed the opportunity to review library procedures.

Only one interviewee replied in the affirmative to the question 'Did you feel reluctant to give up your knowledge and skills in the old system?' He found the new Geac system to be relatively complicated and found it difficult to absorb the training, which he attributed to his age. There was no indication however, of a link between resistance to change and the length of time spent in a particular job.

This absence of reluctance to give up established skills, together with the general positive reactions of staff to change, therefore differs from the work of Fine (1986) who felt that there would always be some resistance to change despite possible benefits or planning. Several members of staff did comment however, that they felt defensive about DOBIS, for example if a trainer made a negative remark about it, and this could be linked to staff feeling defensive about their expertise.

In response to the question 'Did you feel under increased pressure or stress?' most replied that the migration process in itself was not stressful, but several reported feeling some apprehension or stress due to retraining. This was particularly the case in the smaller libraries where it was difficult for staff to spare the time, or for those members of staff who needed training in several modules. One member of

staff said 'I felt under some pressure as there was a lot to learn and I wanted to get it right'. Another expressed some irritation at the new system initially slowing his work down and a third identified the negative reactions of her colleagues as being a source of stress.

The nature of staff's reactions to change were also closely linked to their opinions concerning whether the new Geac system would be an improvement upon the old system, which in turn was related to the modules which they predominantly used. The cataloguing module received unanimous support with staff citing features such as the Windows environment, cutting and pasting, improved searching techniques and quicker database access as vast improvements. Most cataloguing staff consequently expressed very positive attitudes to change. The acquisitions module on the other hand, was least appreciated being 'less transparent and accessible' than the old system, 'laborious' with 'too many redundant things on the screen'. One user of acquisitions outlined how he felt that the reasons for automation change were 'solely technical' and he could not see any improvements for the library service, whilst another even threatened to abandon the acquisitions module and return to a manual system. The generation of reports and statistics were not deemed to live up to expectations, and the serials and circulation modules were generally met with relatively neutral responses. One interviewee seemed to sum up the general feeling by stating that he felt that 'GeoCAT was the only real improvement, despite being given the impression that the new system would be very much the next generation', whilst another felt that it was the needs of

cataloguers that were driving the selection process. However, almost all felt that DOBIS was out-dated and needed replacement.

5.2 Involvement

It transpired throughout the interview process that the question 'Were you involved in any aspects of the decision-making process?' was ambiguous, meaning different things to different people. Some interviewees would say no and then under further prompting reveal various ways in which they were involved. In response to this it was found that adding 'for example by attending SIG meetings' aided clarification. Staff were also explicitly asked if appropriate, whether they attended any system demonstrations, forums or other meetings. Such opportunities for two-way discussion and flexibility, facilitated by the interview process, were found to be crucial in ensuring that the questions were fully understood and the answers correctly interpreted.

It was found that staff of differing levels were involved in a variety of ways through attending SIG or steering committee meetings, attending demonstrations or forums, sitting on LAWP or COALS, writing reports for OLIS News or expressing their views and concerns directly to key people at the Libraries Automation Service or the Bodleian. It was generally agreed that giving staff the opportunity to become involved was important.

Over half the interviewees attended demonstrations of the new system which they found beneficial. One library assistant said that the demonstration gave him 'an important overview of the system from which the training in specific functions could proceed' whilst another felt that it was 'good management to give staff an early taste of the system'.

One particularly interesting issue to arise from the questions concerning involvement relates to the technologically advanced nature of the latest automation systems. It was found that the technological complexities of the client/server cataloguing module limited the extent to which some members of staff felt meaningfully involved. One member of the cataloguing steering committee said 'I felt some reluctance to speak out because of a lack of technical knowledge' whilst another said 'I felt out of my depth and unable to make a valuable contribution'. This feeling of lacking the necessary technological understanding was not as prevalent in the other modules where the technology was not so advanced.

This relationship between a lack of technical expertise and involvement was also given by four members of staff as the primary reason why they either did not want to become involved or become involved further. One library assistant for example, said that although she was 'very interested' she 'lacked the necessary technical knowledge to realise the implications'. It was generally the more senior staff with a greater technological understanding who felt able to make a valuable contribution, but this does not mean to say that all non-professional staff felt unable

to participate, and indeed many found involvement to have considerable advantages.

Therefore, the technological complexities of the latest systems, which were highlighted in Chapter 2 as being a significant factor, may limit meaningful involvement in the decision-making process. This suggests that involving staff of all levels in developing specifications and evaluating vendor responses is not necessarily beneficial for either the individual or the organisation, and this may well become of greater importance as more libraries introduce more advanced systems. This work therefore highlights that staff need to be involved in the right ways and to the right degree, and contrasts to the migration experiences reported by September (1990) and Pachent (1996). It also calls into question some of the assumptions behind participative management outlined in Chapter 3.4.1, but it is important not to draw generalised assumptions from such a small sample. These findings do however, offer interesting scope for further investigation.

Another important constraint on involvement was time, particularly for single-person libraries. One member of CircSIG said that she found it difficult to keep her dual roles going. She felt that the library had suffered due to her absence and on balance would have preferred to have been less involved. Another librarian said that although she would have liked to have been more involved, her first responsibility was to the readers and she did not have time for additional duties.

Only one member of staff interviewed wanted to be more involved, and this is in total contrast to another who said that she deliberately distanced herself from the process.

Responses to the questions 'What do you feel are the advantages/disadvantages of involvement?' ranged from 'considerable advantages' to 'a pointless exercise'. There was a general agreement that involvement had kept them well informed and most described how they reported back to their colleagues within their respective libraries. One interviewee said that he thought involvement was important 'to put the micro-view of day to day working experience into the macro-decision', and there was a general feeling that it was beneficial to discuss problems and enhancements and to share experiences. Some also highlighted how involvement had increased their knowledge of system capabilities and functionality.

The main disadvantage of involvement was time, as previously discussed, but there was also a feeling expressed by one interviewee that 'in retrospect it had been a pointless exercise. It only made us feel scientific. The vendors said what we wanted to hear'. However, he felt that it was 'better the devil you know' and would want to be involved again.

5.3 Communication

Members of staff outlined a variety of communication channels in response to the question 'How were you kept informed about automation changes?' including

newsletters, circulars, meetings, email, log-on messages, LAS Web pages, mailing lists, training sessions, manual up-dates, telephone conversations and word of mouth. The communication role of Margaret Robb, the Library Liaison Manager at LAS, was identified by many as an essential source of support and information, and all agreed that electronic information was becoming much more prevalent, with three quarters of those interviewed participating in mailing list discussions and most identifying email as an important communication mechanism. The relative importance of these communication methods varied between staff, with formal meetings being the primary source of information for some, whilst for others, informal personal contact was the most important channel.

All interviewees felt that OLIS News was an essential source of information. All found it useful but four expressed some reservations about the more technical articles. One felt that there was 'too much jargon and use of abbreviations' whilst another felt that it was 'primarily directed at people with more computer knowledge'. This is in contrast however, to one library assistant who felt that the increasingly technical nature of OLIS News was 'interesting' and a 'reflection of advances in automation'. All read OLIS News in paper format with some accessing the electronic format to check back issues.

There was a general consensus amongst staff that they were kept sufficiently informed with one notable exception who felt that she had 'underachieved' and was 'less confident' because of poor communication and a lack of teamwork within her library. She felt that information was not being filtered down from her librarian

and she had to ask to see OLIS News. She found this lack of communication frustrating but highlighted how in small libraries people are less inclined to make a fuss to preserve working relationships. Those who said that they had very good communication within their library also gave the most positive responses to the question 'Do you feel that you were kept sufficiently informed?'

Four interviewees felt that there could have been more clarity on timetables and schedules. One said 'it's important that both good and bad information is communicated' and another highlighted how it was important for the reasons to be given behind decisions and delays. One interviewee also mentioned at this stage the dangers of communication overload.

The question 'Are there any other methods of communication that you would have preferred?' gained a mostly negative response with many highlighting the varied communication channels already in use. However, one librarian accounted how she found keeping track of a range of paper and electronic sources somewhat bewildering, and felt that it would have been better to disseminate all official information in one format, preferably paper which she could circulate and keep. Another emphasised how he prefers email as a communication channel because of its speed and convenience, but another described how he dislikes email finding it complicated to use. One SIG Chair accounted how he initially felt some concern in disseminating information by email as he was unsure how frequently staff would access it, whilst a further two SIG Chairs felt that communication could have been improved through setting up the mailing lists earlier. Two library assistants felt

that communication flows from their librarians were inadequate with one highlighting how librarians may benefit from training in management skills.

The general response to the question 'For what reasons is communication important to you?' was one of a need to be fully informed. Further variations in individual answers then reflected their local circumstances and job responsibilities. In single-person libraries, librarians felt that good communication was essential to reduce the feeling of isolation. One said that it was 'vital to feel part of a wider network', whilst another highlighted how he didn't have any colleagues within the library with which he could discuss automation issues and so relied on external contact. Interviewees who served on the enquiry desk felt communication was important so that they could answer user queries, whilst those who were responsible for I.T.-related matters within their libraries highlighted equipment implications. Some librarians emphasised how communication was essential for planning with one librarian accounting how he was most anxious to know what the new system would mean for his library.

Interviewees also emphasised some wider implications of good communication with one identifying it as being 'vital for the acceptance of change, particularly in view of the independent nature of the University', whilst another said that 'good communication is essential for change'. Only one library assistant was relatively unconcerned about keeping up with automation developments, and said that she was prepared to take it all on board once a decision had been made.

5.4 Training

Responses to the question 'What training did you receive in preparation for the new system?' were unsurprisingly a reflection of job responsibilities and the level of automation within the library. The results are shown in Table 4 with all 20 interviewees having attended cataloguing training. Two interviewees had received training in all five modules, and a further two had received training in four. Nine of the interviewees had received both circulation and cataloguing training.

Table 4: Training Received by Interviewees

	Cataloguing	OPAC ¹	Circulation	Acquisitions	Serials
No. of interviewees	20	5	9	9	4

The question 'Was this training satisfactory?' received a unanimous yes, with most rating it as good or excellent. The training was felt to be pitched at the right level and sufficiently relevant to the interviewees daily working lives. The documentation was generally considered to be excellent and there were sufficient opportunities for hands-on experience, both during the sessions and later in the library if desired.

The main exception to this positive response was the Windows 95 training which was 'boring' and 'unhelpful'. There was also some slight variation between

¹ Only five interviewees attended separate OPAC training, as training on the OPAC was incorporated into the other training courses.

modules, with one finding the serials training the least satisfactory, and another finding the acquisitions documentation poor. Two interviewees felt that the sessions were too long to sustain concentration, whilst another felt that the training rooms were inadequate and cramped.

The question 'Were there any other areas that you would have liked to have been covered or covered more fully?' was generally met with a fairly neutral response, with some indicating that there was more than enough training to fit into their schedules as it was. At this stage several interviewees emphasised the importance of good documentation and refresher training. No interviewees requested training in understanding how computers work. However, it did transpire that there was some demand for a greater overview and more context for the training. Three interviewees explicitly stated that the training would have benefited from an introductory session giving an overview of the system. One librarian identified how he would have liked a more coherent approach that related the different modules, whilst another said that she would have appreciated a short overview as she likes to receive the wider picture. Another interviewee said:

The training needed more vision. It's important to emphasise the potential of the system and the benefits it will bring. Instead the trainers launched into a mass of details and procedures.

This was highlighted by Sykes (1991, p.35) who described how Hatfield Polytechnic began training their staff by outlining the considerable advantages the

new automation system would bring to readers, and this supports the view of Baker (1989, p.60), who stressed how management needs to tie the positive effects of the change to professional and library values. A failure to do so she says, will result in resistance to change, and certainly the above quoted interviewee had a relatively negative attitude towards the new system in comparison to others.

Interviewees overwhelmingly felt that references to the old DOBIS system were useful in learning the new automation system. Comments such as 'it's important to relate the functions', 'it helps understanding' and 'it's useful to have referral points' were common. One librarian also highlighted how it is equally important to know what to forget, as was emphasised by Lipow (1989), whilst another commented how 'this transferring of knowledge from DOBIS to Geac made the move easier'. This research therefore supports the views expressed in the literature that staff will benefit from positive transfer training (see Chapter 3.6.3).

It was also noted however, that it's important not to focus on the old system too much, and one interviewee described her frustration during training sessions when some members of staff found it difficult to let DOBIS go. Only one interviewee felt that references to DOBIS 'slightly confused the sessions' whilst a second found them relatively unhelpful because she did not have a thorough knowledge of the old system.

The last set of questions in this section relates to the timing of the training and all interviewees pointed to the frustrating timelag between receiving their cataloguing

training and the system going live. One librarian commented how he found it confusing to be trained on Geac and then to return to his library to work on DOBIS, whilst another pointed to the frustration of being continually faced with updates and changes. However, almost all of the interviewees followed this up with understanding comments about how unavoidable and unforeseen events will occur, and any ill-feeling harboured was directed at under-delivery by Geac and not at any mismanagement by Oxford. Responses to the question 'When ideally would you have liked to have received your training?' ranged from two months to one week prior to going live. A timelag of two weeks proved to be the most popular response with many noting that the best practice you can get of a new system is to use it for real.

5.5 Satisfaction with Change Management

There was a general feeling amongst staff that the change was handled as well as it could have been. There was widespread appreciation of the amount of work and the number of people involved, and an opinion that overall Oxford had done a good job. Nonetheless, several issues were discussed in response to the question 'With hindsight, are there any aspects of the change to Geac which could have been improved?'

Six interviewees highlighted problems with Geac in fulfilling their promises. Some felt that there was a specifications gap between their expectations and the system's capabilities, whilst others commented how Geac failed to provide adequate

documentation. One librarian described how the most pressurised aspect about the change was the lack of control over the timetable, where DOBIS could not last and Geac would not deliver. This was particularly the case for the cataloguing (GeoCAT) module for which the timescale is outlined in Figure 5.

Issues relating to time schedules were also mentioned by a further 7 interviewees. One librarian commented 'the change would have benefited from better forward planning at a higher level and a more realistic timescale', whilst another described how she believed in the management principle of 'working out a timeplan and multiplying it by three'. One library assistant highlighted how you cannot foresee all potential problems with there always being an unknown element during change, and this was also emphasised in the survey of Hallmark & Garcia (1992, p.348). They found that more than half of the libraries migrating systems were unable to keep to their schedules due to unforeseen difficulties including delays in contract negotiations and conversion/database load problems.

Concerns about timetabling were also related to training with three interviewees describing how the change process could have been improved through 'less pressurised training'. However, they understood 'the time pressures involved for the LAS and the Bodleian', with one librarian commenting 'librarians are very good at seeing the other side - perhaps too good!'

Figure 5: Cataloguing Training Timetable.

(Information from Burnett 1997, pp.3-5 and ²)

Proposed Timetable for Cataloguing	
Jan 96	Take delivery of new system
Feb - March 96	Familiarise trainers
April - June 96	Train staff
July 96	Go Live

Actual Timetable for Cataloguing	
End April 96	Took delivery of an inoperable system three months behind schedule
May 96 ...	Worked on system. Received 85 different versions of GeoCAT and 49 versions of GeoPAC
<i>Preparatory training sessions ran to keep interest alive</i>	
Aug - Oct 96	Trained staff. Four sessions of 3 hours delivered to 210 staff
Nov 96	Refresher training delivered to 163 staff
<i>700 page manual written. Over a quarter of a million pages of documentation distributed</i>	
April 97	Went live nine months behind schedule

Training issues were also discussed by one librarian who described how despite trying to the contrary, Oxford received inadequate vendor training which he felt was the root of a lot of problems. He emphasised how it's vital that librarians

² Interview with Peter Burnett, Head of Catalogues, Bodleian Library, Oxford University, 5th June 1997.

changing their automation system insist on better vendor training tailored to local needs, and this view was also found by Hallmark & Garcia (1992, p.342).

Several interviewees described how important it was to have a dedicated team of people at the LAS, but a further three felt that the LAS was under-resourced. One library assistant said 'the LAS is too understaffed to provide full support' whilst a librarian commented:

There were not enough resources dedicated to the change-over, which was further exacerbated by delays. It was a bigger job than anyone imagined.

General improvements to communication were highlighted by six interviewees. One librarian described how her library suffered due to a misunderstanding which resulted from confusing jargon, whilst another felt that some people had 'a programming mentality rather than a communicating mentality'. Better communication within the library was emphasised by two interviewees, and good communication to the library was highlighted by another. Some also felt that they would have benefited from more frequent updates, particularly concerning the slippage of migration dates.

Lastly one interviewee described the importance of human issues during change. She felt that people must be allowed to make mistakes and warned that staff can

get too tied up with the technology. She finished by saying ‘just because I work with computers, it doesn’t mean I have to behave like one’.

The last question of the interview asked those interviewees who had experienced changing systems before (see Table 5) to compare their experiences, with several interesting comments emerging.

Table 5: Interviewees who have experienced changing systems prior to Geac.

	Manual to standalone system	Manual to OCLC LS2000	Change to DOBIS/LIBIS
No. of interviewees	2	3	12

Two interviewees related how they found the move to Geac easier because of their previous experience in using DOBIS. Both said that learning DOBIS was a lot harder, and one highlighted how she found it difficult to relate manual cards to DOBIS, but found it much easier to relate DOBIS to Geac. A further three librarians described how the move from a manual system to DOBIS was a much bigger change which had a greater impact on staff and students, with one highlighting how there was a greater conflict of interests first time around, with students wanting greater automation and academics wishing to retain the card catalogue.

By contrast, four interviewees found the move to Geac to be a more difficult process for several reasons. First, two librarians noted how the move to Geac was a much larger and intensive operation. One described how DOBIS was introduced in his library in stages over a period of years, whilst another felt that in joining DOBIS she had more control in making local decisions.

The second reason relates to the more technically advanced nature of second generation systems. One interviewee described how the complex nature of Geac in relation to LS2000 and DOBIS made the move a lot harder, whilst a second, in discussing the client/server operating environment said:

The move to Geac was much harder, with librarians having to set up the clients as opposed to relying on systems people administering the mainframe.

Lastly, one librarian described how the move to Geac was more difficult because it was such a new system and Geac didn't have all the answers. He highlighted how Z39.50 posed a whole new raft of questions and emphasised that the process was not aided by the development taking place in Canada. He felt that the new system had given him a lot of extra responsibilities.

Chapter 6

Conclusions and Recommendations

Having now reviewed the literature and analysed the interviews, this section aims to pull the research together into a coherent whole to answer the original objectives. This will then provide the necessary context from which the recommendations can be formulated to fulfil the initial aim of:

- What advice should be given to librarians to effectively manage their staff during automation system migration.

The first objective was to establish 'How staff may react to automation migration', and it was found that staff will largely react positively towards the change. They recognise the need to replace the out-dated system, and their reactions are particularly positive if they see the new system as offering improvements to both their job tasks and to the library service. Staff are not reluctant to give up their skills and knowledge of the old system, and some may see the introduction of a new system as offering wider benefits, especially in terms of sharpening their skills and re-examining their working practices. Many may welcome the opportunity to learn something new.

Effective staff management is critical in cultivating desirable reactions to change, particularly as staff attitudes may change during the migration process. A broad

understanding amongst staff of the magnitude of the change and of the difficulties involved during the implementation stages, will be beneficial in fostering general good-will and realistic expectations.

Reactions during migration are therefore very different to those encountered during first time around automation.

The second objective was to investigate 'In what ways, and to what degree, staff should be involved in the decision-making process' and it is clear that opportunities for widespread staff involvement are beneficial in fostering staff acceptance of and commitment to the change. Involvement helps to keep staff informed and promotes a better understanding of the need for and benefits of the change.

There are various ways in which staff can be involved and demonstrations are particularly recommended for involving staff of all levels. An early view of potential systems, which highlights their advanced functionality and new features such as graphical user interfaces, will be instrumental in developing enthusiasm for the change. Staff comments and opinions, particularly regarding what they would like the new system to be able to do, should be obtained so that all can have some input into the selection process. Utilising staff experience and knowledge will help to reach a more effective decision.

Further staff involvement can be facilitated through committee work and this is widely recommended in the literature. However, the technological complexities of

new automation systems may limit the extent to which support staff can be meaningfully involved, and it is felt that this will become more dominant as the technology advances. Time is also an important constraint, particularly if the librarian feels that the library service will suffer due to their absence.

The third objective was to determine 'What constitutes effective communication and how it can best be best facilitated' and it was found that good communication needs to be clear, accurate, current and relevant. It should be relatively jargon-free (although advances in automation will necessitate some technical content), and there needs to be opportunities for two-way discussion. Information regarding timetables and schedules is particularly important, and the reasons behind decisions and delays should be given. The importance of communication to staff will largely reflect their local circumstances and individual job responsibilities, and communication success is strongly dependent upon the communicatory skills of those in key positions. Effective communication reduces resistance to change and poor communication is demotivating.

Communication can be facilitated through a wide variety of formal and informal channels and their relative importance will vary between staff. Electronic media such as email, discussion lists, log-on messages and Web pages are becoming much more prevalent, but automation newsletters in paper format are still universally appreciated. The communication channel used will vary depending upon the nature and urgency of the message, but it is important to ensure that official information

does not become too disparate, but is disseminated through one or two key channels.

The fourth objective was to investigate 'What the training objectives should be, and how and when training should be implemented.' It was found that automation training will benefit from an introductory session that gives an initial overview of the system and emphasises its potential. Staff should be told how the introduction of the new automation system will improve their job tasks and the library service, and Morris & Dyer (in press, pp.346-7) point out that 'when the potential advantages are appreciated, there is more commitment to the change'.

Training will also benefit from relating the new automation system to the old, and system similarities and differences should be stressed. The training needs to be sufficiently relevant to the trainees' daily working lives, and good documentation is essential.

Automation training is best accomplished through small group sessions with much hands-on experience, and a good training database is critical. Training should be scheduled within two months of going live, and ideally about two weeks prior to this. If there is an unforeseen time delay it is important to offer refresher training.

From these conclusions and the information contained in the interview analysis and literature search, the following recommendations are advised for librarians facing automation migration:

- State the reasons for the automation change so staff are clear why the change is necessary.
- Give staff vision. Emphasise the potential of the new system and the benefits it will bring to their jobs and to the library service.
- Pay particular attention to time schedules. The time plan needs to be realistic yet sufficiently flexible to cope with unforeseen delays.
- Dedicate sufficient resources to the change-over, bearing in mind possible delays.
- Use the introduction of a new automation system to re-examine existing work practices and procedures.
- Provide sufficient opportunities for widespread staff involvement. Value their automation experience and expertise.
- Give all staff an early opportunity to attend system demonstrations.
- Be aware that the technological complexities of new automation systems may limit the extent to which support staff can be meaningfully involved in the selection process.
- Offer senior and line managers training opportunities to develop their communication skills.
- Provide clear, accurate, current and relevant information. Avoid the use of jargon.
- Explain the reasons behind decisions and delays.
- Remember, effective communication is two-way.
- Take advantage of electronic communication channels and encourage their widespread use.

- Disseminate official information through one or two key channels, and in particular through a regular newsletter.
- Insist on good vendor training, tailored to local needs.
- Provide automation training in small group sessions with much hands-on experience.
- Provide a brief introductory training session that gives an overview of the system and provides context for the subsequent training.
- During training, relate the new automation system to the previous system to build upon existing knowledge. Highlight system similarities and differences.
- Schedule training no more than two months prior to going live, and preferably about two weeks before.

It is also worth highlighting some key areas that have arisen out of this dissertation that would benefit from further study. Hamilton (1995, p.28) notes that there is generally a major leap in technological complexity and capacity with modern automation systems, and this dissertation found that meaningful staff involvement in the decision-making process is limited by staff technological understanding. As automation systems become more advanced, the extent to which librarians need an understanding of how the technology works is unresolved. Further study is therefore needed into whether staff would benefit from training about software and hardware. Such a study should investigate whether this technological understanding would aid the automation migration process and day to day system operation, and should also consider possible benefits to the library service.

A second area that would profit from further study is documentation. Hallmark & Garcia (1992, p.352) found inadequate vendor-supplied documentation to be a recurrent problem, and this was also experienced by Oxford University. Good documentation is essential during automation migration, and further investigation into what constitutes effective documentation, both for training purposes and for staff to refer back to in a live situation, would be most useful to vendors and trainers.

In conclusion therefore, it is hoped that the recommendations given above will help in ensuring a successful automation migration project, and that the research contained within the body of this dissertation will assist those seeking a greater understanding of the issues involved in technological change.

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Appendix A

Interview Question Sheet

Date:

Time:

"As part of my dissertation for library school, I am interviewing staff about their opinions and experiences of changing to the new library automation system Geac ADVANCE. Anything you say will be treated in confidence, and any comments I may reproduce in the final report will be strictly anonymous."

1. Background Information

Name

Library

Job Title

FT/PT

What are your main duties relating to OLIS?

How long have you performed these duties on OLIS?

Prior to the move to Geac, have you experienced changing systems before, for example moving from a manual system to an automated system?

2. Reactions to Change

How did you feel changing to a new automation system?

Prompts: Did you welcome the change?

Did you feel reluctant to give up your knowledge and skills in the old system?

Did you feel under increased pressure or stress?

Did you feel that the new system would be an improvement?

Prompts: Why?

Is the new system an improvement?

3. Involvement

Were you involved in any aspects of the decision-making process?

Prompts: How were you involved?

Did you attend any meetings, forums or demonstrations?

Did you feel free to express your views?

Would you have liked to have been more or less involved in the decision-making process?

Prompts: What do you see as the advantages of such involvement?

What do you see as the disadvantages of such involvement?

Are there any other aspects that you would have liked to have been involved in?

4. Communication

How were you kept informed about automation changes?

Prompts: Did you regularly read OLIS News?

Did you read OLIS News in paper or electronic format?

Did you find the articles in OLIS News useful?

Do you participate in mailing list discussions?

For SIG Chairs: In what ways do you communicate?

Do you feel that you were kept sufficiently informed?

Are there any other methods of communication you would have preferred?

For what reasons is communication important to you?

Generally speaking, how good do you consider communication to be within your library?

5. Training

What training did you receive in preparation for the new system?

Was this training satisfactory?

Prompts: Was it pitched at the right level?

Did you have sufficient opportunities for hands-on experience?

Was the training sufficiently relevant to your daily working life?

Was the documentation useful?

Were there any other areas that you would have liked to have been covered or covered more fully?

How much reference was made during Geac training to the old DOBIS system?

Prompts: Was this helpful? / Would it have been helpful for Geac to have been related more to the old system?

How soon in advance of moving to Geac did you receive your training?

Was this timing satisfactory?

When, ideally, would you have liked to have received your training?

6. Satisfaction with Change Management

With hindsight, are there any aspects of the change to Geac which could have been improved?

If relevant: You said earlier that you had experienced changing systems prior to the move to Geac. How do your experiences of the move to Geac compare to your earlier experiences of change?

Appendix B

56 Windmill Avenue
Bicester
Oxon OX6 7DY
01869 244806

26.05.97

Dear

I am a library studies student and ex-trainee of Oxford, currently writing a dissertation on the management of staff during automation system change. As part of this, and in consultation with Margaret Robb, I am interviewing members of staff at Oxford to gauge their opinions and experiences of moving to Geac ADVANCE, and I would be most grateful if I could interview you.

I would come to your library at a time most convenient for you and the interview would last for about 45 minutes. Anything you say will be treated in confidence and you will be welcome to read a copy of the final report.

I will be in touch within the week to see whether this is agreeable and to arrange a suitable time. I would like to carry out the interviews in June.

Thank-you,

Yours sincerely,

Louise Clarke.

Appendix C

Interview Schedule

Date	Name	Job Title	Main duties relating to OLIS	Library (type)
26.5.97	Ms. Shepherd	Assistant Librarian	Cataloguing	Music (faculty)
2.6.97	Mr. Stone	Senior Library Assistant	Cataloguing	Bodleian (central)
3.6.97	Ms. Short	Chief Cataloguer / Journals Librarian	Cataloguing / Circulation / Serials	Queen Elizabeth House (dept)
3.6.97	Ms. Dalton	Librarian	Circulation / Cataloguing	Experimental Psychology (dept)
3.6.97	Ms. Cobbold	Librarian	Cataloguing	Jesus College
3.6.97	Ms. Dogterom	Librarian	Cataloguing / Circulation	Materials (dept)
3.6.97	Ms. Atkinson	Librarian	Cataloguing / Circulation / Acquisitions	Geography (dept)
4.6.97	Mr. Trowbridge	I.T. Officer / Assistant Librarian	Cataloguing / I.T. related matters	Taylorian (central)
4.6.97	Mr. Grosvenor	Senior Library Assistant	Circulation / Cataloguing / Acquisitions / Serials / I.T. related matters	Social Studies (faculty)
4.6.97	Mr. Crow	Deputy Librarian	Acquisitions / Cataloguing / Circulation	Social Studies (faculty)
5.6.97	Ms. Smith	Library Assistant	Cataloguing	Balliol College
5.6.97	Mr. Burnett	Head of Catalogues	Managing cataloguing staff & bibliographic database. Organising cataloguing training.	Bodleian (central)
5.6.97	Ms. Mangels	Assistant Librarian	Acquisitions / Cataloguing	St. Anne's College
9.6.97	Mr. Ricketts	Librarian	Cataloguing / Acquisitions	St. Peter's College
9.6.97	Mr. Mackinnon	Deputy Librarian	Circulation / Cataloguing	English (faculty)
9.6.97	Ms. Mills	Deputy Librarian	Cataloguing	I.E.S. (faculty)
18.6.97	Ms. Bailey	Librarian	Cataloguing	Wadham College
18.6.97	Mr. Legg	Librarian	Acquisitions / Cataloguing	Nuffield College
21.6.97	Ms. Carter	Senior Library Assistant	Circulation	Philosophy (faculty)
23.6.97	Mr. Searle	Technical Services Librarian	Acquisitions / Cataloguing / Serials	Radcliffe Science Library (central)

