1990

Computers in recreation and sport management

Julia Carr

Sue Colyer


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COMPUTERS
IN
RECREATION AND SPORT MANAGEMENT

Julia Carr, Student, Recreation Studies, WACAE, and
Sue Colyer, Lecturer, Department of Recreation Studies, WACAE.

A research project sponsored by the
Department of Recreation Studies in the
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ABSTRACT

This study was undertaken by the Department of Recreation Studies to investigate computer utilisation by sport and recreation professionals in not-for-profit sporting and recreation organisations in Western Australia, with a view to identifying the preparation needed by recreation students.

One hundred and fifty (150) selected organisations from four generic groups (local government, sports administration organisations, recreation organisations for special populations and community recreation organisations) were surveyed.

The results revealed a broad range of computer applications, predominantly for administration. The most common applications by all four groups were word processing, database management and financial management. Financial management systems were used more than any other application by professional recreation and sports personnel throughout the course of their employment.

Computer skill training occurred mostly on-the-job. The main barrier to effective computer utilisation was lack of funds, and the most positive contribution of the computer was perceived to be time efficiency.

All organisations considered computer awareness and competency desirable job selection criteria, reflecting the need for students of recreation and sports administration to be computer literate as a pre-requisite for future employment.
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COMPUTERS IN RECREATION AND SPORT MANAGEMENT

Introduction
The processing, storage and retrieval of information are tasks common to all administrators and managers. The operations involved in these tasks are routine, repetitious and time consuming. The mass of information needed to manage recreation and sports services today can no longer be maintained by filing cabinets, adding machines and manual organisational methods alone.

The computer has become the central technology behind information management, assisting managers or administrators in their tasks. Recreation and sports administration professionals have only recently started to apply computer technology to the many and varied management practices in their field. It is the extent of use and application of use of computers in sport and recreation administration which was the focus of a research project undertaken by the Department of Recreation Studies at WACAE.

The Changing Role of the Sport and Recreation Professional
The most recent trend in the delivery of sport and recreation services is the increasing accountability and the adoption of sound management practices. There is a definite relationship between accountability, sound management and the management of information in the role of the recreation and sporting professional.

Schoech (1982) notes that accountability is the responsibility for the procedures involved in management of any organisation. It includes various functions such as the planning process, negotiation and monitoring, reporting and auditing of fiscal transactions. Functions for which large amounts of information are required.

Computerisation of administration practices is becoming commonplace to ensure accountability and to support sound management practices. The trend in organisations is to promote information management activities which quantify services, measure program outcomes, integrate services, and ensure thorough planning and evaluation (Schoech, 1982).
Another increasingly important role for the sport and recreation professional is that of facilitator or enabler. The professional is required to act as a resource for information, to have a thorough understanding of current community needs, to be able to reduce barriers and so encourage participation in recreation.

Knowledge of existing community recreation resources such as recreation sites, facilities, services and programs is needed to understand their capacity, suitability and adequacy to meet existing and future community demands.

The recreation and sports professional needs to develop the ability to access, interpret, disseminate and communicate information to groups and individuals as required. Access to relevant and accurate community information is also essential to assist in the making of decisions and developing of strategies for present and future communities.

The computer is at the forefront of the information management systems development and is being used as a tool to assist managers in their day to day tasks, as well as in medium to long range planning decisions.

With this in mind, it is evident that recreation graduates need information management skills that will stand them in good stead for future employment in a

The Department of Recreation Studies at the Western Australian College of Advanced Education directs its courses to the needs of the industry to produce graduates who have the skills to plan, promote and execute recreation services for community development, requiring administrative and planning skills as well as social and technical competence (Pike, 1988).

This study came about to identify the extent of computerisation in the recreation and sports not-for-profit organisations in Western Australia in late 1989, with a view to determining the direction of computer education within the recreation studies programs.

**Computer Applications in Recreation and Sports**

In Australia, and especially Western Australia, there has been little investigation into the use of computers and the type of applications of
computers in recreation and sports organisations. The type, size and funding source of an organisation plays an important part in determining the impact of computer technology on information management systems.

As information increasingly becomes a central commodity to so many economic processes, organisations need to use information to reduce the cost of existing activities and add value to what is done (Barr, 1987). Barr further points to a growing inequity, to an information poor sector not prepared to develop a greater awareness and understanding, and adopt appropriate policies for the introduction and use of information technology.

It can be said that not-for-profit organisations have lagged behind commercial organisations in the application of computer and communication technologies. The dominant influencing factors are the lack of financial resources and lack of expertise to utilise the available technology. Many organisations are too small or located rurally to warrant the use of information technology (Reinecke, 1985).

The professionals in the sport, parks and recreation industries in the not-for-profit and government organisations have been targeted for this study to determine the extent of computer utilisation in those organisations in Western Australia.

A review of the developments in computer technology, although undertaken for the study, is not repeated in this article, for it is assumed that readers will be aware of the general developments, which are well documented in other sources. In recent years computers have begun to play a greater part in the management of recreation and sport services, therefore some discussion of the more recent developments was deemed more appropriate.

The Introduction of Computers
The introduction of computers to recreation services is often through the use of standard financial management programs. This was the case at the City of Belmont, where the financial operations of the Recreation Department were integrated into the Council's main system, along with word processing by support staff. More recently, a program was developed for the management and maintenance of all parks, sports field and public amenities within the City of Belmont. Consultation between town planning, engineering, recreation and in-house computer staff led to the evolution of a program that suited each department's responsibility for park, sports field and public amenity maintenance.
Belmont's Recreation Department is now using the events calendar and diary applications and has plans to set up a community directory, as there are over 150 clubs within the city (Halbert, personal communication, August 15, 1989).

Integration of computers
The administration of an organisation is concerned with the management of information. The introduction of management information systems has brought a shift in focus of computer usage, from one computer/one application to an all purpose data system, allowing the successful integration of management information by computer.

The City of Perth Recreation and Cultural Services Section has an integrated computerised system using the Council's ICL IFS2 mainframe for integrated financial services, a Wang mainframe for word processing, internal electronic mail and transmission of reports. The section uses an Olivetti microcomputer for budget preparation in Microsoft spreadsheet and RBase System V for database applications for a variety of tasks such as facility inventory and community organisation directory (Andrews, personal communication, June 27, 1989).

Computer Software - Recreation Applications
Beeler (1984) noted that the three most popular software programs used by recreation organisations were word-processing, financial analysis and database management. Database management will be discussed in more detail as it appears that this is the area where programs are being developed specifically for recreation and sports management and some of the more interesting innovations have occurred.

Database management refers to a collection of pieces of information and allows rapid search and retrieval of information from a centralised store of data.

Penrith, an outer suburb of Sydney, in 1985 made use of a database system to enable easy identification of public land reserves when faced with rapid growth and development. It collected data on ownership status of the land, characteristics size, maintenance requirements, use schedules, expenditure and the potential for use and development. This system, when linked with the Council's existing information system
provided a powerful tool to facilitate social and physical planning (Elphinston, 1987).

In Victoria, a regional open space inventory was initiated by the Melbourne Western Region Commission, and involved nine adjoining municipalities, which collected information on all open spaces and recreation facilities within their respective areas.

This database is now a comprehensive resource enabling the Commission to assess the priorities for maintenance and acquisition of open space with development strategies based on a regional perspective (Elphinston, 1987).

Another example of a public database is a community inventory, such as Info Link, which is a Western Australian government and community information service. Its main function is as a supplier of information on State Government services and functions and community activities. It also provides consultancy and clearinghouse services. These include advice on how best to gather data, store, organise and retrieve information, with a subscription service to information lists on services and organisations in the state.

Other programs
Recreation centres are adapting their own computer systems to suit their management needs.

One local recreation centre that has computerised some aspects of administration is Wanneroo Waterworld. This recreation and aquatic centre has installed a system which connects the electronic cash register to a computer system. This system at Wanneroo Waterworld can produce a 'cash receipts by attendance category report', and hourly attendance report and a weekly report. This information provides management with user profiles and information about daily, weekly or monthly usage patterns as required, resulting in more effective and efficient management due to the ability to respond to changing usage patterns (Hassell, personal communication, July 5, 1989).

Other organisations are using the computer to schedule fixtures and events, record registrations and competitor or player profiles and produce match results. The Western Australian Amateur Football League, with a membership of over 7000 playing members has found a computerised system essential to produce weekly reports and results.
for the clubs (Costley, personal communication, September 11, 1989).

Therapeutic recreation and leisure counsellors are exploring the use of computers in their profession and are using the computer to determine program goals, client needs and interests, and appropriate forms of activity prescription. Computers have come into their own as teaching aids and for communication for the disabled (McCann, 1984). Although Abbotts (personal communication, August 14, 1989) noted that the computer is predominantly used for administrative and management functions in Western Australia.

Another computer program that is worth mentioning is the development of a 'knowledge-based system' for the selection of surface systems for sports fields, children's play area and indoor recreation facilities. One of the objectives of the program is to undertake a comparative analysis and evaluation of surface systems for the activity with particular reference to the required playing surface characteristics (Brown, 1989).

Computer Training
The recreation and sports professional in many instances will learn how to use the computer through on-the-job experience, with or without training, and with the computer manuals supplied by the computer or software company. In the future, this type of training will not be adequate for the professional to meet the demands of their jobs. The emerging professionals will have gained some experience with computers in their tertiary courses and therefore will be more receptive to the use of computers in the course of their work. They will be able to use computers with increased efficiency and innovation. They will even expect computer access as a decision support tool (Bowers, 1985).

Methodology
The research design used for this project was a self administered questionnaire, (Appendix 1) mailed to persons in charge of recreation and sport services for each of the organisations selected.

The targeted population was made up of four categories of differing generic organisations, derived from extensive lists of organisations, viz.,
1. Local government recreation departments (L)
2. Sports organisations (S)
3. Organisations that provide sport and recreation services for specific populations, namely the disabled (R)
4. Community recreation organisations (C).

These categories were verified as being the major employer groups of recreation degree graduate and post graduate students from the Western Australian College of Advanced Education (Lobo, personal communication, August 14, 1989).

One of the major criteria for selection of each organisation was that the organisation was able to or had the capacity to employ recreation graduates in a professional capacity.

Once the various generic categories of investigation had been identified, the actual organisations to be surveyed were selected, with each group handled separately to ensure representativeness of the population in each group.

A total population of 229 organisations existed, from which a sample of 65% was randomly selected. Table 1 depicts the sample selection.

<table>
<thead>
<tr>
<th>Category Code</th>
<th>Total Population</th>
<th>Total Sample</th>
<th>% Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>138</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>S</td>
<td>47</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>R</td>
<td>21</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>C</td>
<td>23</td>
<td>15</td>
<td>10</td>
</tr>
</tbody>
</table>

The questionnaire was designed to achieve the basic objectives of the study, namely, to determine which organisations have computers and how they use them; the types of computer hardware and software applications currently in use or proposed; to identify which software applications are used by which personnel; and to determine the level of
computer skill required by employers and training needs for recreation staff.

Results

A return rate of 67.3% (101) was achieved. It was found that 56 (55.5%) organisations responding had a computer and used it for sport and recreation management functions.

Thirty-one organisations or 30.7% of the respondents did not have a computer. A further 5.9% of the questionnaires were returned, but invalid and therefore not able to be included in the analysis.

Table 2 illustrates those organisations with a computer used for recreation and sports purposes.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total N</th>
<th>Returns %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local government authorities</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>Sport administration</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>Sport and recreation organisations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for special populations</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Community organisations</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>100%</td>
</tr>
</tbody>
</table>

The analysis of responses was segregated into organisations with computers and those without. The following discussion addresses only the responses from organisations with computers.

The first series of questions enquired about the length of time the organisation had been established and the number of full time, part time and voluntary staff employed by the various organisations. It was found that local government and sporting organisations tended to have been established longer than the other two categories of organisation. The typical organisation or recreation department might be characterised as one employing less than ten full-time staff, less that 12 part-time staff and approximately 30 volunteers, however, some of
the large local authorities employed up to 20 people, with one employing 82 full-time staff.

The major employer groups for recreation graduates were local government authorities, employing 11 of 23, and community recreation organisations employing a further 8 graduates; with one graduate in a sports organisation and three in special recreation services.

**Computer Functions**

The most common functional use of the computer was in administration tasks (42%) and the next most frequent use was for facility management (15%). Client services accounted for 13% of the responses, predominantly by sports associations and recreation organisations for special populations. Figure 1 displays the total responses, indicating the many ways in which the computer can be utilised as a tool for recreation and sports managers.
Types of Computers in Use
Fifteen mainframe computers (18% of total computer use) were used, with 14 of these computers in local government. Twenty-one organisations recorded the use of mini-computers, accounting for 24% of total computers used, ten of these were in local government and 7 in community recreation organisations.

The micro-computer accounted for 58% of the total computer use for all four types of organisations; 24 in sports associations, 12 in community organisations, 6 in special recreation services and 8 in local government.

The emerging trend appeared to be that local government has adopted mainframe computers, while the smaller organisations have opted for mini- and micro-computers as the most suited to their respective needs. Figure 2 illustrates the use of different types of computer hardware by the various sport and recreation organisations.
Further, and highlighting the complexity of the computer market and the array of available hardware and software, were the responses to questions on brands of software and hardware in use. Eleven different brand names of mainframe computer were identified; 6 different minicomputers and 7 different micro-computers. Forty-seven different brand name programs were identified for local government alone. The same variety was found for the other three organisation types.

Comparisons of software usage are demonstrated in the following tables and figure. Table 3 provides a guide to the generic programs in use, with Table 4 giving more details of the database management systems in use.

<table>
<thead>
<tr>
<th>SOFTWARE</th>
<th>L</th>
<th>S</th>
<th>R</th>
<th>C</th>
<th>TOTAL N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word processing</td>
<td>24</td>
<td>17</td>
<td>4</td>
<td>10</td>
<td>55</td>
<td>27</td>
</tr>
<tr>
<td>Financial managt.</td>
<td>20</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>35</td>
<td>17</td>
</tr>
<tr>
<td>Elect. spreadsheet</td>
<td>12</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>Database managt.*</td>
<td>13</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>39</td>
<td>19</td>
</tr>
<tr>
<td>Events calendar</td>
<td>7</td>
<td>5</td>
<td>-</td>
<td>2</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Desktop publish.</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Communications</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Statistical anal.</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Special purposes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Education games</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOCS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-house mgt sys</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National/state championship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>records, ranks etc.</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|                               | 92| 59| 16| 39| 206     | 100%

The responses recorded for database management systems required further investigation particularly as one software application is capable of performing many functions, inherent in integrated computer applications, compared to undertaking one task with one software application. Table 4 shows the detail of database management applications used by 39 organisations.
Table 4  DATABASE MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>TASKS</th>
<th>L</th>
<th>S</th>
<th>R</th>
<th>C</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel files</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Mailing lists</td>
<td>8</td>
<td>12</td>
<td>3</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Facility inventory</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Accounting</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Membership lists</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Registrations</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Competition results</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Community directory</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

29 20 6 27 82

This usage by all organisations is demonstrated clearly by Figure 3 below.

FIGURE 3  TYPES OF SOFTWARE APPLICATIONS USED BY SPORT AND RECREATION ORGANISATIONS 1989
Use of the Computer
Analysis of the valid staff positions using the computer indicated that 40 (71%) of use was by recreation and sports professionals, with 14 respondents (25%) listing administration and support staff as the only users of the computer in their organisation/department.

The predominant computer applications used by people in professional recreation positions were identified as financial management, database systems, word processing, spreadsheet analysis and community directories and inventories. Less common computer applications used in recreation positions were desktop publishing, statistical analysis, communications and games.

Staff Training
Only seventeen respondents (30%) indicated that they had a policy for staff training on computers, the majority of these being local government. It was found that on-the-job training was the most common form of training in computer skills. Other training approaches included courses by external computer consultants, tertiary courses, in house computer expert and in-service workshops.

Most organisations (66%) considered that computer skill was a desirable selection criterion for new professional staff and it was noted that these prospective employers expected that recreation graduates would have computer skills. In addition, the majority of organisations (78%) expected that the basic level of skill required in candidates was a working knowledge with a willingness to undertake further training.

Some interest was shown in computer training courses offered by the Western Australian College of Advanced Education, however, one disadvantage that emerged was that organisations requiring training opportunities were those in rural situations without easy access to college facilities.

Most interest was shown in courses on database management, closely followed by an interest in introductory computers courses. Table 5 details the training requirements. A strong preference was indicated for a 2 day workshop of intensive computer training by 17 of the 24 organisations, suggesting an interest if training courses were to be offered by WACAE.
Table 5 TYPES OF COMPUTER TRAINING REQUIRED

<table>
<thead>
<tr>
<th>OPTION</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the computer</td>
<td>17</td>
</tr>
<tr>
<td>Word processing</td>
<td>15</td>
</tr>
<tr>
<td>Financial analysis</td>
<td>13</td>
</tr>
<tr>
<td>Database management</td>
<td>18</td>
</tr>
<tr>
<td>Graphics</td>
<td>15</td>
</tr>
<tr>
<td>Other: (Spreadsheets/statistical analysis)</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

Conclusions
This study has revealed that sport and recreation organisations in the not-for-profit sector of the recreation industry have adopted computer technology to assist with administrative and other functions necessary for managers.

A substantial number of the organisations investigated in this study indicated that a wide range of applications software had been introduced. Some organisations have their own systems designed to suit their needs, with others having adopted commercial packages for their purposes.

At the time of the investigation, most organisations offered on-the-job training for their staff, however, the majority of organisations indicated that they sought new professional staff with an awareness of computer systems and applications software, but preferably with a working knowledge of, and skills in computer operation.

It was clear that a computer training program, designed to suit the needs of the recreation industry, would be well supported by both those organisations with computers and those that anticipate acquiring computers within the next 5 years.

This indicated need for recreation personnel with computer competencies implies that recreation graduates would be best prepared to meet the industry's needs by equipping themselves with computer skills prior to entering the workforce.
This study has revealed an overview of the extent of use and utilisation of computers in not-for-profit sport and recreation organisations in Western Australia, and has highlighted the need for the Department of Recreation Studies to meet the changing needs of the recreation industry, as it has always done in the past, and provide within the recreation programs, opportunities for recreation students to develop computer competencies.
Selected Bibliography


Costley, N., Development Officer, W.A. Amateur Football League, Personal communication, September 11, 1989, Computerised integrated package in sport.


Halbert, S., Recreation Officer, City of Belmont, Personal communication, August 15, 1989, Computers in Local Government Authorities.

Hassell, C., Manager, Wanneroo Waterworld, City of Wanneroo, Personal communication, July 5, 1989, The computerised financial management system in use at the centre.

Lobo, F., Head, Department of Recreation and Tourism, WACAE, Personal communication, August 14, 1989, Careers in Recreation, Careers Night, 1989.


COMPUTER UTILIZATION IN SPORT AND RECREATION

INSTRUCTIONS:

The Department of Recreation and Tourism at the Western Australian College of Advanced Education is conducting a survey of computer utilization by Sport and Recreation professionals in not-for-profit organisations which provide recreation and sport services throughout Western Australia.

There is a total of 24 questions which, in most cases, require you to answer by placing a tick in the (√), writing a short response or filling in a number.

Where the respondent is a recreation section or department within a larger organisation, please write both the section or department name and the name of the organisation, and please answer the questionnaire as it relates to your recreation section or department.

An early reply by September 15, 1989 would be greatly appreciated. All information collected in this questionnaire will be treated as strictly confidential.

If you have any queries, please contact Julia Carr, on 386 8400, or Sue Colyer, on 386 0305
<table>
<thead>
<tr>
<th><strong>GLOSSARY</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>A collection of information organised so that needed information is easily found.</td>
</tr>
<tr>
<td>Data base management (software) package</td>
<td>A package that manages an electronic data base, allowing the user to find data base elements that fit some criterion.</td>
</tr>
<tr>
<td>Mainframe</td>
<td>A large computer with many terminals.</td>
</tr>
<tr>
<td>Minicomputer</td>
<td>Computer size between a mainframe and a personal computer.</td>
</tr>
<tr>
<td>Microcomputer</td>
<td>Personal computer, small one-user computer.</td>
</tr>
<tr>
<td>Professional position</td>
<td>Positions that could be filled by a recreation graduate.</td>
</tr>
<tr>
<td>Spreadsheet</td>
<td>A table with rows and columns of values, labels, and formulas that can be used to make calculations, plan budgets, make forecasts.</td>
</tr>
</tbody>
</table>
**SECTION A: DESCRIPTION OF THE ORGANISATION/DEPARTMENT**

1. In what type of work is the organisation/department predominantly involved?
   - Local Government
   - Community based recreation services
   - Sport administration
   - Sport and recreation services for special populations e.g. disabled, aged persons
   - Other, please specify

2. How long has the organisation/department been established?
   - 1 - 5 years ( )
   - 6 - 10 years ( )
   - 11 - 15 years ( )
   - Over 20 years ( )

3. How many people are employed in the organisation/department?
   - Full-time, paid
   - Part-time, paid
   - Voluntary

4. Has the organisation/department employed any recreation graduates from the Western Australian College of Advanced Education?
   - Yes ( )
SECTION B: THE COMPUTER

This section looks at where the computer is used and the type of hardware currently in use or proposed.

5. Does the organisation/department use a computer?

Yes (Go to Q.6)

No (Go to Q.9)

6. If Yes, what recreation functions of the organisation/department are serviced by computer? (Tick one or more as applicable).

- Administration
- Policy Co-ordination
- Facility Management, e.g. community centre, swimming pool, etc.
- Program services, e.g. camps
- Client services
- Other, please specify ..........................................................

7. Please specify computers used, type and number, in space provided:

- Mainframe, (Brand ..........................................................

- Minicomputer (Brand ..........................................................

- Microcomputer (Brand ....................................................

8. Do you use your computer to communicate with other computers?

No (Go to Q.10)

Yes

Please indicate for what purpose ...........................................

.................................................................(Go to Q.10)
9. Does the organisation/department plan to purchase a computer within the next:

- 1 - 2 years ( )
- 3 - 5 years ( )
- Not at all ( )

SECTION C: THE COMPUTER - SOFTWARE APPLICATION

10. The table below lists the main types of software applications generally in use today. Please indicate by a tick in Column A, which software package is in use by the organisation/department, or which you would anticipate using.

Please specify the brand of the software package, where applicable, in Column B.

If you do not use any software and do not anticipate purchasing any in the next five years, please tick here. ( ) and go to Q.11.

<table>
<thead>
<tr>
<th>PACKAGE</th>
<th>'A'</th>
<th>'B' - BRAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. Word Processing</td>
<td></td>
<td>Wordstar IV</td>
</tr>
<tr>
<td>Word Processing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Spreadsheets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Base management:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- personnel files</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- mailing lists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- facility inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- other, please specify</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Events calendar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desk Top Publishing</td>
<td></td>
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</tr>
<tr>
<td>Communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special purpose</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. Which computerized, public databases are used? 
(Tick one or more as applicable)

- None
- Infolink
- ABS Census Data
- Elderlink
- Viatel
- Other, please specify: ...........................................

12. Does the organisation/department carry out any of the following? 
(Tick YES or NO as applicable)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write its own computer programs</td>
<td>( )</td>
</tr>
<tr>
<td>Employ a computer consultant</td>
<td>( )</td>
</tr>
<tr>
<td>Purchase software packages</td>
<td>( )</td>
</tr>
<tr>
<td>Use in-house EDP service</td>
<td>( )</td>
</tr>
</tbody>
</table>

13. Who uses the computer in the organisation/department? 
(Please specify by title and number of people, those who use the computer).

e.g. Position (0) - Recreation Officer - 3

Position (1) .........................................................
Position (2) .........................................................
Position (3) .........................................................
Position (4) .........................................................
Position (5) .........................................................
Position (6) .........................................................
Not applicable ( )
14. For each position listed above please specify the predominant computer applications used.

   e.g. Position (0): Word processing, financial analysis, facility inventory

   Position (1) ...................................
   Position (2) ..................................
   Position (3) ..................................
   Position (4) ..................................
   Position (5) ..................................
   Position (6) ..................................
   Not applicable

SECTION D: STAFF TRAINING

15. Does the organisation/department have a policy for staff training in computing?

   No ( )
   Yes ( )

16. What types of computer skills training are provided by the organisation/department to the professional staff (i.e. positions that could be filled by a recreation graduate)? (Tick one or more as applicable).

   In-service workshops
   Training course conducted by outside computer consultant
   On the job training
   In-house computer expert working with individuals
   Tertiary education courses sponsored by employer
   Training computer package
   None at all
   Other, please specify: ..........................................................
17. When selecting new professional staff, are computer skills considered a desirable selection criterion?

- Yes (Go to Q.18)
- No (Go to Q.19)

18. If Yes, what degree of computer skills do you require? (Tick one or more as applicable)

- Working knowledge and willingness to be trained to meet employer's needs
- Ability to operate computer proficiently
- Ability to write computer programs to some extent
- Other, please specify: .................................................................

19. Would the organisation/department be interested in computer training courses, conducted by the Western Australian College of Advanced Education?

- Yes (Go to Q.20)
- No (Go to Q.22)

20. If Yes, please indicate what types of computer utilization skills are of interest to the organisation/department? (Tick one or more as applicable)

- Introduction to computer courses
- Word processing
- Financial analysis
- Data base management
- Graphics
- Other, please specify: .................................................................
21. What type of training schedule would be preferred? (Please rank in order of preference (1) being most preferred, (2) being next preferred, and so on).

2 day workshop, intensive
5 week, 2 hour session - day
5 week, 2 hour session - evening
Other, please specify: .........................................................

22. Which of the following, do you believe are the major barriers against the effective use of computers within the organisation/department? (Please rank in order of priority (1) being the major barrier, (2) being the next, and so on).

Lack of funds
Lack of hardware
Lack of time
Lack of information about types of software available for sport and recreation
Lack of access to computer skills courses
Low willingness of staff to undertake computer training
Other, please specify: .........................................................

23. Which of the following do you believe are the major positive contributions made by use of a computer? (Please rank in order of priority (1) being the most beneficial (2) being the next and so on).

Increased scope of information access
Economic efficiency
Time efficiency
High quality report writing and presentation of information
Improved staff relations
Decision making assistance
Other, please specify: .........................................................
24. If there are any other comments you wish to make regarding computers in sport and recreation, please use the space provided:

.................................................................
.................................................................
.................................................................
.................................................................
.................................................................

********

THANK YOU FOR YOUR CO-OPERATION IN COMPLETING THIS QUESTIONNAIRE

Please fill in details below, in case there is any need to contact you regarding this questionnaire.

RESPONDENT'S NAME:  ....................................................

POSITION HELD:  .................................................... DATE  ..............

TELEPHONE NO.:  ..............................
WESTERN AUSTRALIAN COLLEGE OF ADVANCED EDUCATION
CENTRE FOR THE DEVELOPMENT OF HUMAN RESOURCES

TECHNICAL REPORTS


