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A Critical Examination of ArchWay –
Nova Scotia's Database of Archival Descriptions

by

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A thesis submitted in partial fulfillment of the
Requirements for ACS 690.0 and the degree of
Master of Arts in Atlantic Canada Studies

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Canada

When we are gone, they will remain...

They will remain, when we return...

Excerpt from "When We Are Gone", 1993
By Reclaiming, <u>Second Chants</u>

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ABSTRACT

A CRITICAL EXAMINATION OF ARCHWAY –
NOVA SCOTIA'S DATABASE OF ARCHIVAL DESCRIPTIONS

BY WENDY GAYLE R. BULLERWELL, APRIL 2002

This thesis critically examines ArchWay – Nova Scotia's Database of Archival Descriptions, giving reasons for its creation and describing the development of the database with illustrations of how the database can be used for research. The purpose of this thesis is to evaluate the ArchWay project as a process and then as a product while assessing the reasons for its creation. The method used in this thesis is similar to that of a case study. To evaluate both the process and the product of ArchWay, published studies of similar databases are explored and the results of these studies are then applied to the database for analysis. A discussion about the development of the database provides the background necessary to understanding the building of ArchWay. A walkthrough of the database's screens is given as an illustration of how ArchWay works. Both the discussion and the walkthrough are used to analyse the project. The results and analysis evaluate the process and the product using the literature review, the background discussion, and a user survey of ArchWay's features. The author argues that ArchWay has met only two of the seven the performance measures. The user survey indicates that ArchWay is not user-friendly.

ACKNOWLEDGEMENTS

PREFACE

The author first began her involvement with the Council of Nova Scotia Archives' database discussions in October 1995. From that initial involvement, she became dedicated to the database project and offered to be a member of the steering committee. The author felt that her experience with and accessibility to library databases could be beneficial to the committee. She recognized the growing importance and capabilities of library databases and so looked on this project as an opportunity to apply her knowledge at the grassroots level. When asked to sit on the database's steering committee in 1996, she volunteered to act as secretary and maintain the meeting minutes. She remained in that position until the end of the Committee in 1999, by which time she was also sitting on the Council of Nova Scotia Archives' Executive Committee.

During the database process, the author strongly supported and endorsed the project – even coined the name "ArchWay" for the database. The author wanted this project to succeed and supported the work undertaken by the ArchWay Archivist. Frustrated by the Committee's direction and empathetic to the ArchWay Archivist's situation, the author was not entirely happy with the choices made by the Committee or the untimely-ness of those decisions. However, the author recognized that the Committee consisted of volunteers who had other work-related responsibilities and that the ArchWay project had few similar models to follow for guidance. She also recognized that she was part of a team and followed the Committee's consensus even when she did not entirely agree with their decisions (i.e. screen displays).

This study has changed the author's perception of the ArchWay project. For example, until examining the documents for this thesis, the author did not know the seriousness of the CNSA's funding crisis, nor did she understand that the ArchWay project was seen as a means to obtain an increase in provincial funding. The conclusions drawn in the results and analysis of this thesis also discusses the author's changed views of the project. After examining all of the minutes and notes with hindsight for this thesis, the author realized that more investigation, direction, and support could and should have been given to the project by the ArchWay Committee and the Executive Committee. ArchWay's leaders, including the author, started on this project in a strong position but did not seem to build on those strengths, focusing more on the obstacles to success, such as funding. If the CNSA Executive and ArchWay Committees had maintained a strong process, the resulting product would have been better.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

AABC	Archives Association of British Columbia
AACR2R	*Anglo-American Cataloguing Rules 2 Revised*
AMC	Archives and Manuscripts Control (used with MARC)
BCAUL	British Columbia Archival Union List
CCA	Canadian Council of Archives
CAIN	Canadian Archival Information Network
CNSA	Council of Nova Scotia Archives
MARC	Machine Readable Cataloging
NSARM	Nova Scotia Archives and Records Management
OPACS	Online Public Access Catalogue Systems
PANS	Public Archives of Nova Scotia
RAD	*Rules for Archival Description*
ULM	*Union List of Manuscripts in Canadian Repositories*

CHAPTER ONE

INTRODUCTION

Societal leaders – priests, royalty, and the ruling classes – originally set up archives to maintain financial, legal, and personal information for their own reference. This practice of private collections continued until the late 1700's when general archives were established to collect the historical records of a society. In 1789, France created the first centralized archival system to protect the records in a single repository. By 1796, France's national archives was given control of all official records too, making it a public repository of private and governmental records (Association of British Columbia Archivists 1988, 1).

In New France, an archivist was appointed in 1724 and a repository was proposed in 1731. In Nova Scotia, Thomas B. Akins became British North America's first publicly funded Records Commissioner in 1857 and set out to develop a public archives. Shortly after Confederation, the first Dominion Archivist, Douglas Brymner, was appointed with the mandate to locate and acquire records for the historical study of Canada. During his thirty years as Dominion Archivist, 1872-1902, Brymner began the foundation for the collection at the Public Archives of Canada. However, he did not have the authority to collect official government records; this rested with the Keeper of the Records, a position that was part of the Department of the Secretary of State. In 1904, with his appointment as the second Dominion Archivist, Arthur G. Doughty was also made Keeper of the Records and so the historical and official records were united under one position (Social Sciences and Humanities Research Council of Canada 1980, 20-22). The Public

Archives of Canada was formally recognized by government statute – the Public

Archives Act – in 1912 (Association of British Columbia Archivists 1988, 2).

The word *archives* has a range of meanings: first, the records of continuing value

that are preserved (meaning all archival material); second, the organization responsible to

acquire, preserve, arrange, describe, and make accessible the records of continuing value

(meaning the archival institution); and third, the actual building that houses those records

of continuing value[1] (McKemmish 1993, 2). Archival institutions exist for three

fundamental reasons. One, an archival institution helps to improve the efficiency of the

sponsoring body. Documents having long-term value, created and received by the

sponsor are preserved for current and future reference. Two, an archival institution has

cultural significance. Documents reflect the functions, growth, and development of the

sponsoring body, acting as a recorded memory of the past. An archival institution also

holds documents that define the social, economic, and political relationships of the

sponsor. Three, an archival institution holds primary source documents that demonstrate

the past practice of the sponsoring body (Schellenberg 1956, 8-10). Thus an archival

institution is normally mandated to provide four specific functions: one, to appraise and

acquire archival material; two, to preserve that material; three, to arrange and describe

that material; and four, to make the material accessible. These four steps should be

applied to all archival materials regardless of their format (Social Sciences and

Humanities Research Council of Canada 1980, 13, 16).

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[1] Because of the triple meaning, this thesis will not use archives; instead, records of continuing value are often called 'archival material' and the organization keeping those records are called 'archival institutions'.

Libraries and archives are very different types of institutions. The library collects secondary or published materials that are often duplicated among various libraries and so are replaceable. An archival institution collects mostly primary or original materials that are unique and irreplaceable; if those materials become damaged or destroyed then the information is gone.[2] As a result, libraries and archival institutions allow different types of access to their collections. Libraries often permit the researcher to browse the shelves in a self-help manner and to remove that material from the library. Archival institutions usually have closed stacks and so do not allow the researcher to browse, have rules for handling material to increase document security, and do not allow material to leave the research room (National Archives of Canada 2001). Both libraries and archival institutions arrange their material, but again they do that in different ways. Archival materials are not arranged by subject classification like published material; arrangement is by the original order of the records within each creating body (Social Sciences and Humanities Research Council of Canada 1980, 16). In this way, archival arrangement preserves the context and relationships within and between archival materials or records (McKemmish 1993, 12). This, then, is the main difference between archival institutions and libraries – they collect different materials and handle those materials differently.

Only records of continuing value are archived. Those records considered to have value are created and used as 'evidence of activities and interrelationships' by providing continuity and accountability as well as 'information about associated people, organizations, events, and places' (McKemmish 1993, 1, 8). Records created by any

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[2] Some materials in an archival collection may be printed or published, but these materials are not considered "archival" per se and are often collected to support the subject matter within archival material.

public or private body or individual as part of an official transaction are considered important for permanent preservation for reference or research purposes and may be deposited in an archival institution. An archival institution maintains records of many formats: paper, audio, visual, graphical, electronic, and microform (Schellenberg 1956, 16 and Jenkinson 1966, 11).

In Canada, the collection and preservation of archival materials in all formats having continuing value led to the concept of 'total archives'. First used by the Public Archives of Canada in 1972, total archives basically means "[a]ll records, from all sources, for all people". Under this approach, the national, provincial, territorial, and municipal archival institutions would acquire materials that reflect the history of an area, including both the official records of the sponsoring body and the private records from the public[3] (Millar 1998, 104, 117). But "total archives" had it challenges. During the pursuit of acquisitions, archival institutions – mostly at the national, provincial, and territorial level – competed to acquire the most significant or most interesting materials available. This competition served to limit the ability of those archival institutions to cooperate and even strained their relationships (Caya, Beyea, and Hanson 1992, 58). A report published by the Social Sciences and Humanities Research Council of Canada in 1980, called *Canadian Archives*, claimed (64) that total archives should not mean that only public archival institutions could be responsible for maintaining archival material. The report's authors said that the application, not the concept, of total archives in Canada

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[3] The Beaton Institute is a good example of a total archives. The Institute is generally mandated to acquire and preserve all materials relating to Cape Breton Island. For this reason, the collection consists of various formats of materials relating to the University College of Cape Breton (the sponsoring body) and to the people, culture, and history of the Island.

was faulty. They argued that a decentralized approach to collecting archival material was

better for the country and called for the creation of a Canadian Archival System.

Under this system, the establishment of other archival institutions was encouraged

with both public and private organizations being responsible for maintaining archival

materials. [4] The national, provincial, and territorial archival institutions changed their

practice of acquisitions and began to form partnerships with other local institutions. As a

result of these partnerships, professional archival associations formed at the provincial

and territorial level to encourage a formal means of cooperation and collaboration (Caya,

Beyea, and Hanson 1992, 59).

Nova Scotia was no exception. Through the 1980s and 1990s, the number of

archival institutions in Nova Scotia grew from twenty to approximately eighty, most of

which were community-based (McBride 1993, 170). This situation placed many archival

institutions – both large and small – in a difficult position by causing some 'territoriality'

within the province with respect to acquisitions mandates. In the spirit of the Canadian

Archival System, a provincial archival association began in the early-1980s to encourage

cooperation and collaboration among all archival institutions in Nova Scotia. That

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[4] Laura Millar, archives consultant based in Vancouver, has researched and written about the evolving relationship between total archives and the Canadian Archival System. She argues that the Canadian Archival System can be interpreted as a redefinition of total archives, responding to the public's interest in maintaining records locally and to inadequate funding to the national, provincial, and territorial archives (Millar 1999, 46). Millar writes that those small community archival institutions are expected to keep the total archives concept alive but they have not been given sufficient resources or the means to do so. However, the alternative of taking the material away from the smaller archival institutions to give to the larger archival institutions goes against the spirit of creating of an archival system (Millar 1998, 104).

association is called the Council of Nova Scotia Archives (hereafter known as the CNSA).[5]

Throughout much of the past decade, the CNSA has recognized and utilized the capabilities offered by the Internet and encouraged their members to cooperate and collaborate on a single project – a provincial archival database. The leaders of the CNSA envisioned a centralized database of Nova Scotia's archival descriptions that would be freely accessible to the public over the Internet. After six years and several setbacks, the database was finally launched in May 2000.

This thesis critically examines that database – ArchWay, Nova Scotia's Database of Archival Descriptions. The online database, developed and maintained by the CNSA, is still in its early stages and currently contains over 600 archival records descriptions held in select member institutions. This examination will outline the origins of ArchWay, giving reasons for its creation. In doing so, the development of the database is described and an illustration of how the database can be used for research will be provided.

The purpose of this thesis is to evaluate the ArchWay project as a process and then as a product while assessing the reasons for its creation. This examination will provide the CNSA with a critical look at the ArchWay project. Perhaps this examination will also assist other archival organizations that are working on, or planning, a similar

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[5] Incidentally, the CNSA had a direct effect on the growth of Nova Scotia's archival institutions during the 1980s and 1990s. This was achieved in good part through its strong Education and Outreach programming.

database project. More importantly, this thesis discusses a critical change of focus for archival institutions not only in Nova Scotia but in Canada as well.

The method used in this thesis is similar to that of a case study. To evaluate both the process and the product of ArchWay, published studies of similar databases are explored. The literature review in chapter two discusses other published material that is relevant to the ArchWay project. In total, ten studies are reviewed: five being library-related database studies, three being archival-related studies, and two being general studies about database planning. These ten studies were published between 1991 and 1999. Library literature is included because description databases are newer to archives than to libraries where catalogue databases are more prevalent. As a result, fewer studies exist for archival databases.[6] The results of these studies are then applied to the database for analysis.

The development of the database also needs discussion to provide the background necessary to understanding the building of ArchWay. The concept of a province-wide archival database was originally conceived in 1982, but was not pursued because the financial, technological, and descriptive requirements for such a large undertaking were not yet developed. However, over a decade later, the idea again surfaced.[7] In 1994, the project was seen as the means of increasing profile, service, training, standards,

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[6] It is interesting to note that user evaluations of databases are not prevalent in either library or archival literature.

[7] This was not a new idea. The technology required to build a provincial database was more readily available by the early 1990s. British Columbia had already developed a provincial archival database; their project is briefly discussed in this thesis. The Canadian Council of Archives, discussed later in this thesis, also began to investigate the possibility of linking archival databases nationally and provided some seed funding to support such initiatives – a critical factor in this endeavour.

cooperation, and funding the archival community in Nova Scotia. An ArchWay project was meant to address these needs for the CNSA while creating a product – the database. The background of ArchWay in chapter three discusses a chronological development of the database. A walkthrough of the database's screens is given as an illustration of how ArchWay works. Both the discussion and the walkthrough are used to analyse the project.

The results and analysis evaluate the process and the product using the literature review and the background discussion. Evaluation of the process in chapter four includes: planning, service, cooperation, profile, training, standardization, and funding. These database objectives were identified by the CNSA in 1998 with the writing of the *ArchWay Project Proposal*. This thesis will revisit that *Proposal* in detail to evaluate the process. The author argues that ArchWay does not stand up to the performance measures of *Planning*, *Standardization*, and *Funding*. Evaluation of the product also includes a user survey of ArchWay's features, such as search, display, data, help and menus. This section refers back to the images included in the walkthrough. Although the user survey was a small sampling, the answers were consistent. Suggestions are provided on how to make the database more user-friendy. The results of this thesis are intended to assist database creators in archives and the CNSA to better meet the purposes and benefits of creating an online archival database.

Many types of researchers – including academic scholars and genealogists – use ArchWay to find archival material in Nova Scotia. The database does not contain actual

archival material;[8] instead, it contains descriptions of those materials. Researchers can

search through the database to determine which archival institutions and which archival

records might hold the materials that are necessary for their research. Such a tool can be

valuable for identifying the location of archival records.

Before the popularity and accessibility of the Internet, an early form of this type

of tool existed on paper as an annotated list, known as a union list. The best-known

Canadian archival example of a union list is the *Union List of Manuscripts in Canadian

Repositories* (hereafter known as *ULM*). First published by the Public Archives of

Canada in 1968 as a response to researchers' needs for locating primary source materials,

the *ULM* is a selective list of records and manuscripts held in Canadian repositories. The

ULM provides basic description information about archival materials to help the

researcher find relevant records and determine which repositories to contact or visit. The

project began in 1961, with the financial assistance of the Humanities Research Council,

which contributed $10,000 to the initial survey of holdings in 300 potential Canadian

repositories. From that survey, 110 institutions' holdings were included, resulting in

11,170 entries in the first edition (*Union List of Manuscripts in Canadian Repositories

1968*, i). Entries in the *ULM* followed a pre-determined format including: a location

number assigned by the editors, the collection title, the creators dates, the place of

residence or principal occupation of an individual, the material type with inclusive dates,

a brief description of the papers, notes on access restrictions (if necessary), and a list of

other subject-related guides included in the publication.

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[8] In the future, ArchWay may develop to contain select images of documents.

The first edition was successful enough for the Public Archives of Canada to publish a revised edition in 1975 with the financial assistance of the Humanities Research Council. This revised edition included 171 institutions and 27,000 entries. The information in this edition was expanded to include indexes that were more specific and cross-references (*Union List of Manuscripts in Canadian Repositories* 1975, v-vi).

Below are the 1968 and 1975 entries for Thomas Beamish Akins, given here to illustrate the difference in the entries' format. As can be seen in these examples, the actual information is not changed, only the way in which the entry is written.

The 1968 entry format:

> AKINS, Thomas Beamish, 1809-1891, Halifax and
>   Falmouth, N.S., Barrister, historian,
>   archivist of Nova Scotia.
>
> 1-26. Originals, n.d. 3 inches
>   List of books and pamphlets in Dr. Akins' library, some
>   bibliographical material, and printed copy of some of his reports
>   as archivist of Nova Scotia, also some drafts of his histories.
>
> 33-13. Original, 1878.   1 folded sheet.
>   A letter from Francis Parkman concerning "Selections from the
>   Public Documents of Nova Scotia" recently compiled by Akins,
>   18 Oct. 1878.

(*Union List of Manuscripts in Canadian Repositories* 1968, 5)

The 1975 entry format:

> AKINS, Thomas Beamish, (1809-1891), Falmouth and Halifax, N.S.,
>   Barrister, historical and archivist of Nova Scotia.
>
> 1-541 Original, 38 pages, 1869.
>   List of books in Dr. Akins' library (now in the Public Archives of
>   Nova Scotia and at the University of Kings' College, Halifax);
>   bibliographical material; printed copy of some of his reports as
>   archivist; drafts of his histories; *The First Council* [of Nova
>   Scotia], published in the **Collection of the Nova Scotia
>   Historical Society**, Vol II, p. 17-30; letters from Akins to [H.Y.
>   Hind], 1890, about the criticism of Abbe Casgrain of his
>   **Selections from the Public Documents of the province of Nova
>   Scotia**, 1869.
>   Ref./Ref.: MG 1, No. 5-8.

(*Union List of Manuscripts in Canadian Repositories* 1975, 9)

Four supplements to the 1975 edition were published until 1985.[9] By then, the

ULM had become too large to maintain and so the Public Archives of Canada

discontinued the project. In that final supplement, the project's Director, Robert S.

Gordon, indicated that the Public Archives of Canada would begin to explore new ways

of using technology to sustain and improve the *ULM* project (*Union List of Manuscripts*

in Canadian Repositories 1985, v). However, it was not the Public Archives of Canada

(called the National Archives of Canada as of 1987) that took up this challenge. Rather

the Canadian archival community, with core financial support from the Canadian Council

of Archives formed in 1985, became the conduit for electronic archival union lists.

ArchWay is one of a number of provincial archival databases.

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[9] The first, published in 1976, contained 5,000 entries from 60 repositories; the second covered 1977-1978 and contained 3,000 entries from 66 repositories; the third covered 1978-1980 and contained 3,300 entries from 78 repositories; the fourth, published in 1985, covered 1981-1982 and contained 9,000 entries from 73 institutions (*Union List of Manuscripts in Canadian Repositories* 1985, v).

CHAPTER TWO

LITERATURE REVIEW

The evaluation of archival databases has received little attention in archival

literature for several basic reasons. One, few archival databases had been widely

available online until the early 1990s and so could not be easily evaluated, and two, a

Canadian archival description standard, the *Rules for Archival Description*[1] (hereafter

known as *RAD*), was only published in the early 1990s, making the development and

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[1] Published in 1990 by the Bureau of Canadian Archivists, *RAD*'s purpose was to create a data content standard that would prescribe a format for the description of archival materials and for the indexing of those materials (Toms and Duff 1992, 253) and is modeled on the library's *Anglo-American Cataloguing Rules 2 Revised* (hereafter known as *AACR2R*). Indeed, *RAD* looks similar to *AACR2R* in format and in language. The rules are divided into chapters, each of which deals with a specific media – textual records, graphic materials, moving images, and so on (Bureau of Canadian Archivists 1990, v). In this way, the description is only dependent on the format of the materials and not the function. The second part of *RAD* provides rules to form access points for indexing. These rules are identical to those of *AACR2R*.

RAD follows the concept of *respect des fonds*, which is defined by the Bureau of Canadian Archivists in the glossary of *RAD* (D-5) as the 'principle that the records of a person, family or corporate body must be kept together in their original order, if it exists or has been maintained, and not be mixed or combined with the records of another individual or corporate body'. The Bureau of Canadian Archivists (1990, D-3) defined a fonds as '[t]he whole of the records, regardless of form or medium, automatically or organically created and/or accumulated and used by a particular individual, family, or corporate body in the course of that creator's activities or functions'.

Before the development of *RAD*, the lack of descriptive standards to describe archival material resulted in a multitude of descriptive practices among various archival institutions. As Jean Dryden and Kent Haworth explained to the archival community in 1987 (1),

> [a]rchivists have generally agreed that the archival principles of provenance, original order, and *respect des fonds* govern the arrangement of their holdings. But the process cannot stop with arrangement. Archivists must describe their holdings as a means of internal control and to provide access to users. ... The need to develop a set of descriptive standards for archives is urgent and pressing. Such standards require that archivists agree upon ways of consistently describing archives, irrespective of medium, within and between institutions.

This article in *Archivaria*, and many others like it, emphasized the need for nationally accepted archival description standards. In the ensuing years, the profession dedicated itself to the goal of developing descriptive standards. Automation, and its capability to share information, motivated the profession to define their descriptive requirements through working groups of archivists that specialized in a particular media. The result was *RAD* which provides archivists with a detailed set of rules for describing all levels and types of archival material (Archives Association of British Columbia 1994).

sharing of archival databases more practical. These two factors contributed to the rise in

online archival databases and, as a consequence, allowed for their evaluation to begin.

While archivists were slow to embrace the opportunities of computerized aids,

librarians had launched full force into the new technology. Library databases, or

catalogues, have been more widely available since the mid-1980s and their descriptive

standard – the *Anglo-American Cataloguing Rules* (or *AACR2R*) – has been available for

the past few decades. For this reason, the evaluation of library catalogues has received

much more attention in the professional literature. In the early 1990s, archivists were

starting to look at their colleagues' development of bibliographic and full-text library

databases. Although little professional literature existed concerning the development and

success of computerized archival finding aids, the professional literature for libraries

contained an abundance of relevant information.[2]

For this literature review, a mixture of library and archival literature has been

selected. All of the works included in this chapter have some bearing on the case study in

the following chapters. The literature shows that early studies examining the impact of

computers on the presentation of information – especially in a finding aid database –

were clearly inconclusive. A UNESCO study, by Christopher Kitching (1991),

determined that computer usage would be very positive for archives and allow for the

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[2] In the archival and library literature, there is much discussion about Machine-Readable Cataloging (hereafter known as MARC) and Archives and Manuscripts Control (hereafter known as AMC). Both of these are cataloguing formats that apply a markup language to a cataloguing, or database, record. MARC is most often used in the library setting; AMC is used for archival documents. The literature mainly discusses the use of these formats to join library and archives catalogues on a single database, often in an academic setting. Although this type of joint database appears to be prevalent in the United States, it does not appear to be used as often in Canada. The MARC AMC format is also not directly relevant to the case study in the following chapters.

easy creation and searching of finding aids. The study suggested the future possibility of networked finding aid databases, although it recognized that a large network presented a number of challenges. Another study, by Hugh Taylor (1992), strongly suggested that the use of computers to create finding aid databases would produce a negative impact on archives as they had the potential to remove the personality of the archivist from archival descriptions and cause the database to be less user-friendly.

The creation of a user-friendly database of descriptions has been the focus of studies in both libraries and archives. The design features used by Wendy Duff and Penka Stoyanova (1998) and the checklist method devised by Joan Cherry (1998) are key studies found in the literature. Duff and Stoyanova's study used focus groups to determine user satisfaction for six different archival databases. A few of the designs for their study were created using recommendations from Cherry and the checklist method. Walt Crawford (1999), who is opposed to the checklist method, felt that this method may point out weaknesses in design but that the checklist alone does not produce a user-friendly design. He suggested that database users should be included in the design process. Duff and Stoyanova's study did encourage the focus groups to make suggestions as to how to design a database display. The results were surprising, seemingly showing that archivists were designing databases that did not meet the needs of their users. The discussions and studies of Duff and Stoyanova, Cherry, and Crawford are applied in a later chapter to evaluate the case study.

User satisfaction is important not only for the overall design of a database, but also for searching. Studies done by Tim Hutchinson (1997) and Rita Czeck (1998)

looked at searching methods, especially for large and full-text databases. These studies suggest that searching needs to be user-friendly, flexible, and effective. Helen Tibbo (1994) examined the search capabilities for a large library catalogue that networked several smaller databases. She found that a large catalogue is not user-friendly or effective. Because the ArchWay case study, which is the focus of this study, features a large database consisting of smaller databases, these results must be considered for evaluation.

The best way to create an effective and user-friendly database is through appropriate planning. Anne Gilliland (1998) and Richard Kesner (1984) discuss the need for proper planning and foresight when creating a database. The role of a steering committee and implementation team are also stressed as critical factors for success. Their suggestions will be applied to evaluate the process of building the ArchWay database in the case study.

Archivists were at first more reluctant than other information professionals to embrace online and networked databases. Perhaps archival institutions were slow to change because of the nature of their profession. Archivists maintain vital records over time for legal, administrative, fiscal, corporate, and society purposes. Perhaps some archivists feared that by adopting the Internet they would be losing professional credibility, decreasing preservation practices, or possibly contributing to an extinction of archival institutions and overall loss of 'good practice'. Perhaps other archivists feared an archival presence on the Internet would somehow bring too many visitors to their archives, or even that being on the Internet would make archives redundant because

researchers would no longer need to visit archival repositories. One study (Kitching 1991, 4-5) found that, internationally, a lack of resources and training contributed to archivists' early uncertainty about the benefits of computer applications. Certainly, technology could be used to create in-house finding aids but networked descriptions were not readily possible because archival descriptive standards were still too early in development and archival materials by nature are very unique. The opposite was true in libraries and this reality helped librarians develop computer applications that would allow networked descriptions.

The idea of using computers to assist in the process of library and archival holdings management began in the 1960s. While libraries were able to take advantage of the technology, archives lagged behind. Anne J. Gilliland, an archivist at the University of Cincinnati and editor for the 1998 *Library Trends* issue entitled "Automating Intellectual Access to Archives", discussed this situation in the issue's introduction. She noted that although the idea of using computers originated in the 1960s,

> [archival] [p]rogress was hindered ... not only by the conceptual difficulties arising out of archival theory and practice, and the very diverse and specific subject areas, media, and formats which archival holdings encompass, but also by the relatively small size and low profile of many archival operations when compared to libraries. Another serious impediment has been the continuing absence of a sustained level of funding. Many pioneering applications in automation have relied heavily upon grant support, but in an environment where operating budgets for many basic manual functions rarely achieve high institutional priority, the costs of even the most inexpensive and standardized automation may well prove prohibitive (496).

Archivists clearly recognized the value of automated systems, but were not able to fully utilize the technology for a variety of purposes due largely to limited resources and the

lack of archival descriptive standards. Only in the late 1980s, did archivists find the

opportunity and resources to use the technology.

> Recent developments, the cumulation of two decades of debate and experience,
> indicate that it is now time to reevaluate the state of archival automation and its
> relationship to other information systems. These include the availability of
> inexpensive, powerful microcomputers and commercial and custom-designed
> archival software (Gilliland 1988, *Introduction* 496).

In 1991, a UNESCO study explored the global impact of computerization on

archival finding aids. The author, Christopher Kitching, surveyed a number of

international archives of all sizes. The study is interesting because it was carried out at a

time when archivists were beginning to investigate the diverse ways in which they could

use computer applications to their advantage. At this time too, the Internet was in its

infancy, not easily accessible to the general public, and was slow as well as costly.

Overall, Kitching (17-19) saw the impact of computers as positive, but he

discussed both the advantages and disadvantages for computer generated finding aids and

for networks of descriptions. Some of the stronger advantages that he identified included

enhanced control over intellectual arrangement and description, the possibility of

achieving greater consistency and precision through standards, the ease of revisions to

descriptions, and the ability to do more precise searches and receive a greater number of

hits. But Kitching (21-31) also argued that a number of problems needed to be addressed

by the archival community before the advantages of computerized finding aids would be

realized. Some of the most significant disadvantages that he identified included the cost

of hardware and software, the need for more computer training, the time and cost of

inputting backlog descriptions into a new system, the need to identify and include the

users (i.e. archivists, patrons, creators of records) in the design, the need to incorporate

updating into the archivists' routine, and the need for a policy to track database changes

and decisions.

The study found that most archivists could see the potential of computers to help

build finding aids; some even envisioned computer networks. Kitching (48-50) discussed

the networking idea as well. At that time, networks had been set up by universities who,

acting in support of their researchers, linked together their databases. Government driven

national networks were not yet as popular. Among the advantages of a national network

was the ability to standardize description and to cooperate on archival acquisitions

strategies. But Kitching also identified that national networks had larger issues that could

only be resolved through discussion among participants. The disadvantages that he

identified (50) were cost, over-centralization of the host with participants dependent on

commitment of that host and the reliability of the database, a lack of host ability to

standardize descriptions or maintain the database, and the potential loss of control over

the data by participants.

Because Kitching's study was done in 1991, his report provides insight into the

early stages of the computerization of finding aids. Since then, information technology

presentation and information management techniques have changed dramatically.

Archivists undoubtedly recognized the advantages of online finding aids as they began to

use and understand electronic networks. As a result, archivists have been transforming

traditional practices to accommodate and take advantage of the opportunities provided by

advances in information technology, especially the Internet. In 1994, Lynne Tibbitt,

archivist with the British Columbia Archives, urged her British Columbia colleagues to

accept technology, using it to benefit services and research as well as assist in advancing

archival principles. She stated that

> archivists have to quit being blinded by the past! We need to stop relying on the
> old, familiar, comfortable ways of doing things, either for ourselves or for our
> clients. Although paper is still the most prevalent media, people are using more
> and more electronic tools to access and manipulate information. If archivists
> want to preserve a place in the twenty-first century information society, we had
> better become pro-active and strive for it, and not hide in the stacks with our
> slowly decaying, non-demanding, but familiar paper records (5).

The most logical place to search for assistance with database development is in

the literature of other information colleagues. As a result, a review of the library

literature is important to the understanding of the development of online databases.

Certainly, some of the results of those studies can be applied to archival online databases.

Library literature contains some theory and debate on the process of creating a

catalogue, but it deals mainly with catalogue displays. The development of a checklist

method to evaluate library catalogues has sparked a great deal of debate when specific

catalogue displays are ranked against each other. Studies have also been done to evaluate

very large catalogues for searching capabilities, both in terms of full text and brief text

catalogues as well as metadata. Although a great deal of library literature on database

development and design does exist, two authors tend to be most often cited – Joan Cherry

and Walt Crawford. Cherry was a member of the Faculty of Information Studies at the

University of Toronto. Crawford was the Senior analyst at the Research Libraries Group

Inc., based in California.

Joan Cherry and others published a study in 1994 which examined twelve library online public access catalogue systems (hereafter known as OPACS). As part of her study, she developed an extensive checklist and used it to evaluate those catalogues. In 1998, she modified that checklist to study and evaluate ten web version OPACS. The 1998 version of the evaluation was carried out by two research assistants who applied the modified checklist.

The 1998 checklist is very detailed, looking at every aspect of database labels, text, help screens, and page layout. For our purposes, the rating of the ten web version OPACS is not important; what is important is the checklist itself and its application to the web version OPACS. The following chart summarizes the points which the research assistants used to evaluate the databases. Successful databases were ones that contained as many of these features as possible.

Table 2-1: Cherry's Checklist in Brief (Modified from Cherry 1998, 135-137)

Labels:	• use of labels • use of abbreviations • use of jargon • clear labels	• uppercase labels • right-justified labels • columnar format
Text:	• use of mixed case • use of proper grammar • use of full words • left-justified text	• ragged right edge • logical arrangement • display of call number and location • use of hyperlinks
Help:	• use of proper grammar • clear and concise help • positive statements • online help provided	• use of icons • use of jargon • options available • clear error messages
Layout:	• consistent layout • search terms displayed • clear differentiation between records	• name of database displayed • call number displayed • use of colour

Walt Crawford (1999, 1-3) evaluated Cherry's 1998 checklist method and concluded that using a checklist to evaluate library databases in general is flawed. He cautioned to be careful of checklists and their practicality because, in his opinion, a catalogue can be rated low for not having what he considers 'useless features'. Not all of the features in the checklist need to be used to make a strong database. A database with every conceivable feature will pass the checklist, but fail the user because checklists look at features and not the cohesiveness of the entire database. Crawford felt that a checklist suggests that there is an ideal, or standard, display. But, there is no standard or "ideal" display, nor will changing technology allow for the creation of a long term standard display. A checklist cannot pre-determine all of the possibilities; rather the checklist method only reflects the opinion of the checklist creator. Despite his criticism of this method, he indicated that Cherry's checklist results do reflect correct evaluations of the display and databases studied.

Cherry's checklist (1998, 131-132) did identify a number of general weaknesses in the web version of library OPACS: related bibliographic fields were not linked together; records were not separated clearly; labels were not accurate or meaningful; right-justified labels were not used; abbreviations were used; redundant information was included in the help screens; the database name, the search strategy, the call number, and/or the database options were not given at the top of the display; online help was not available; and, links to other related information were not provided. Certainly, the checklist method may pinpoint potential problems with a database, but the method should

be used carefully. Crawford (1999, 6) concluded that creating bibliographic displays was more of an art and not a science.

In an earlier article, Crawford (1992, 2-5) discussed what he felt were the good features of a library catalogue. Because the article was published in 1992, he did not discuss web catalogues; instead, he focused on in-house online systems for both dumb and smart terminals. A catalogue is an interface between the user and the collection. User interfaces that are over-designed are not useful and may have no real purpose. Crawford cautioned that the designer must know the catalogue user and that user's needs by asking what does the user expect from a catalogue and what does the user bring to the catalogue? He identified two types of catalogue users – 'quick and dirty' and 'in-depth'. The majority of catalogue users do not want to spend time searching the database. They also do not want to wait for access to material; they want the material immediately in full text or digital format. In-depth users will spend time searching the catalogue. But this minority should also have the option to access full text and digital material. In-depth researchers are often extremely computer literate and use many databases in their research. Their prior experiences influence how they want to search for and display records.

Because the in-depth users are often a minority, Crawford (1992, 8-15) advised that a catalogue should be designed for the quick search user. He suggested a design with lots of 'white space', well planned options on the display, increased navigability and control, clear labels, consistent commands, an understanding for how the system works at

least within a few minutes, a carefully chosen colour scheme, complete but not confusing

displays, and an ability to add functions to the database as time or needs dictate.

Crawford (1992, 16) presented his own advice about library catalogues:

> [a] successful users interface satisfies the fast lookup needs of the majority of
> users, while providing enough power to satisfy the deeper needs of the minority.
> It gives ready access to call number and status formation without plowing through
> many screens, but also lets people see all the information they can use when they
> need it - and lets them decide what they can use, rather than restricting
> information to what some study shows will satisfy 80 percent or 90 percent of
> users. Aim for success: aim for improvement. Aim for coherence, clarity, and
> excellence. Don't worry about designing the perfect interface; you won't and that
> it is not a problem.

However, even a well designed catalogue does not, and cannot, replace the

assistance of a librarian. Crawford (4, 7, 14) pointed out that help screens are the least

visited screens on a catalogue. For this reason, the librarian remains a critical resource.

Only a librarian can provide the necessary assistance to catalogue users to help them

understand or find the material. Help screens do not replace human contact. However,

properly structured and worded help screens are important to the database for those users

who cannot get the assistance of a librarian. It would seem that this point also stands true

with archivists and archival databases as well.

As archivists are just beginning to write evaluative literature on holdings

databases, they need to review relevant library literature and adapt it to the archival

experience. There is some caution required in this exercise because archival material and

archival descriptions are very different from library material and library cataloguing.

However, library literature is all that is mostly available for now. But, as more

networked and online archival databases become available, archivists will be able to

evaluate their own databases and build their own body of knowledge.

Several studies about archival databases have now been published in the archival

literature. One study done by Wendy Duff, from the Faculty of Information Studies (FIS)

at the University or Toronto, and Penka Stoyanova, a graduate student in the FIS

program, is very interesting because it evaluates database design from the users'

perspective. They conducted an evaluation of displays used in six different archival

databases. To do the evaluation, Duff and Stoyanova (1998, 46) used five focus groups

and evaluated the users' satisfaction for each display. Although there were limitations in

the study (i.e., the focus groups did not use the actual databases and instead did the

evaluation from printouts of the displays), the study does provide some interesting

insights.

Four questions (48-49) were addressed by the study:

- Do users prefer an archival display created according to design guidelines over archival displays from existing systems?
- What formatting features do users prefer?
- Do the elements in the existing archival displays meet the needs of users?
- What would an "ideal display" designed by users look like?

Library literature was consulted prior to the study, including Joan Cherry and

Walt Crawford's articles, and a number of those suggestions were used in Duff's display.

Duff and Stoyanova (47) determined that the library literature recommended five

elements: balance, regularity, symmetry, economy, and sequence. Further

recommendations included a ragged right margin, lots of white space, text arranged along

a central axis, upper case labels, logical element display, brevity, clarity, and consistency.

Six different archival databases, using six different software, were chosen for this study. Software used for the displays were SIRSI, Gencat, InMagic, an in-house prototype, Panorama Pro, and a display created by Duff specifically for the exercise. This study evaluated the displays only and not the capability of the software (50-51). Of the six databases, 59% of those in the focus groups preferred Duff's creation, 26% chose the in-house prototype, and 15% preferred Panorama Pro. The SIRSI, Gencat, and InMagic displays were disliked by all of the groups.

This study also showed that users do know what they want to see in a display. All of the focus groups were asked to comment on the features that they would include in a display. The results are similar to the recommendations found in the library literature. Collectively, the focus groups commented (51) that "bold typefaces, lists labels, white space, [and] justification" added to clarity while "abbreviations, repetition, [and] excessive information" made the display unclear. In terms of display format, the group wanted (52) right-justified or bolded labels, an ability to browse displays quickly, easy navigation, lots of white space, and results lists. In terms of an ideal display, the information that was recommended for inclusion were (54, 61): the call number, title, scope and content should be at the beginning or top of the screen; the scope and content should list the series; there should be options for a brief and full description; a header with call number and title should appear on all screens; and, labels should be right-justified and the information should be left-justified. The focus groups also wanted displays for glossaries and online help as well as the inclusion of finding aids and indexes to support the description.

This study also showed (46) that there is a relationship between the users' satisfaction with a database and the users' understanding of the description of those records. Users who can read the description and see the purpose of the records are more satisfied. Good interfaces put the user in control of the search and the interaction. However, the assistance of an archivist is also important to understanding the descriptions.

Duff and Stoyanova's study showed that users favoured displays designed for the user instead of displays designed for archivists. This suggests that archivists have not been designing their databases for their audience. Hugh Taylor, a retired archivist with experience in several provincial archives and the Public Archives of Canada, made the same observation in a 1992 article when he suggested (174-175) that archivists had designed finding aids for themselves and not for their users. Taylor was very critical of computers and finding aids. In looking at the use of computerized finding aids in archives, bibliographic databases in libraries, and users of both, Taylor felt that the needs of the users were being overlooked. Because archivists design finding aids for themselves, those finding aids tend to reflect the 'bureaucratic structures' imposed by the sponsoring body instead of reflecting how the researcher uses or needs the material. Taylor argued that this made archival systems completely user-unfriendly.

He cautioned (174, 176) that archives and archival databases are not as user-friendly as archivists believe them to be. Technology had the potential to impede personal communications with the users and cut off an important aspect of the archivists' work – reference. He suggested that this may be due to that fact that the move to a

computerized finding aid was aimed at making archives more cost efficient and not done in consultation with the users themselves. Taylor argued that technology, then, took on its own personality and overrode the personal aspects that are needed to service users. The machine eliminated the person and the archivists' experience was set aside.

If this is so, information systems that remove the assistance of an archivist will record a different and impersonal history and not properly serve researchers. History as a discipline has taken more of a social focus. Taylor asked (176) how the use of a database might strip away the social aspect and leave only impersonal descriptions that would not be useful to the historian? He followed by asking how the social aspect might be put into a computerized archival description? While his questions are rhetorical, they are important when considering how archival descriptions should be presented in a an automated system.

Taylor's valid arguments aside, it is difficult to determine how an archivist could design a database that would retain the social aspect of records and override impersonal descriptions. Perhaps that is not the purpose of a computerized finding aid. Standardized descriptions, which are impersonal, form one of the reasons why description databases became possible. Perhaps it is the archival material itself that bears the responsibility of reflecting the social aspect. Perhaps a more flexible searching method would be more effective for archival materials.

In 1997, Tim Hutchinson, an archivist at the University of Saskatchewan Archives, undertook a study to explore how the capability to conduct context searching effects retrieval results. He then compared those results with searching traditional

cataloguing records (73). In 1998, Rita Czeck, from the University of Colorado Libraries, examined the most frequent types of information requested by historical researchers. She determined (428) that historical researchers most often request dates, geographic locations, names of persons or corporate bodies, and subjects. These two studies may suggest the need for more flexible methods to make database searching more effective. Hutchinson and Czeck also studied the relationship between higher recall and low precision for searching, using library databases as examples.

High recall searching is the term used for a search that retrieves a large amount of database records. Low precision refers to the relevance of the retrieved records for the user. An example of high recall searching would be the user's ability to search the entire text, or full text, of the database's records. Full text searching allows the user to have greater flexibility because all of the fields could be searched either separately or at the same time (Czeck 1998, 429, 440). The rate of precision, however, is directly decreased as a result. This means that the user may get a high number of results from a full text search, but the retrieved records are lower in relevance. The length of the text in the field also has an impact on recall and precision that mirrors the full text database findings (Hutchinson 1997, 82).

The method of searching and retrieving results is important for the design of a database. A database of archival records is not a true full text database, but it can be argued that it is similar enough to be called full text. Whether or not a database of archival records is considered "full text" is addressed by Hutchinson. He tried to place the discussion in context by saying that (74)

[i]t is not entirely clear which model – full text or less than full text – is best suited for analysis of the situation for archival materials. Clearly an archival finding aid is not a "full text" document, in the sense that is a surrogate for a set of materials. On the other hand, it could be argued that the finding aid is the "full text" and the catalogue record is the "surrogate," at least in the sense that a catalogue record is normally created from the finding aid, not from the archival records themselves. Indeed, the important characteristic of full text may not be whether the text is a surrogate for a more complete document, but rather how extensive that text is. That is, even though an archival description may not technically be a "full-text document," if the administrative history and scope notes are lengthy, [then it will impact on recall and precision much the same as a full text database].

Since full text searching gives greater results, but less precise results, Hutchinson (74, 87-88) further argues that the two concepts should be used together. He points out that being able to search specific fields allows for the ability to do context searching, making the entire database searchable for higher precision. Czeck appeared to support this idea (430), pointing out that precision is higher in abstract databases or in indexes. Certainly, an archival database is more similar to an abstract database than a full text database. For this reason, it would be logical to assume that searching sections of finding aids may help increase precision.

Poor cataloguing can impede search results as well. Czeck claimed (430) that 'the individual record is only as good as the cataloguing'. There is great difficulty in assigning subject access to cataloguing records because the descriptions cover a wide range of topics (Hutchinson 1997, 75). To make cataloguing more consistent – and therefore make a stronger database – attention must be paid to specific elements such as dates, geographic location, names of persons or corporate bodies, and subject access (Czeck 1998, 430-431).

The studies done by Hutchinson and Czeck reinforce Helen Tibbo's earlier findings on larger databases which determined that recall was of a higher ratio than precision searches, especially with respect to full text databases. In 1994, Tibbo, from the School of Information and Library Science at the University of North Carolina, studied retrieval of bibliographic records in larger databases and whether or not large databases are effective or beneficial to the researcher. Tibbo believed that studies of larger databases were needed so that planning can be done before the creation of any database.

She found (311-312, 315) that including a large amount of records in a database and increasing the speed of access to that information may be less beneficial to the researcher. The larger the database, the more difficult it is for the researcher to do effective free text searches, producing information overload. Researchers often deal with information overload by selecting only the first few results. Without a sorting capability, databases will display the most recent subjects first. This can be a problem when searching for historical information because that information may still be relevant. So, the most recent entries, which display first, may not always be the most relevant. The merging of several catalogues makes this situation worse and confusing for the researcher.

The success of a larger database depends on the records themselves and how well those records represent the materials that they describe. Description must capture the most important subject matter and be specific and therefore useful. It is important that the description not only describe the material well, but is must also distinguish itself from

other similar records. Highly precise subjects assigned to descriptions should allow for

better results (Tibbo 1994, 312).

Tibbo indicated (312, 322) that the subject field is the most difficult field to

control consistently. The larger generic subject classifications, like the *Library of*

Congress Subject Headings, are not specific enough for large databases. She suggested

that institutions of a similar nature need to create their own subject authority in

conjunction with each other. If those subjects are used in a larger database, then retrieval

precision will be higher.

Large and even networked databases will have high precision if the subject access

is chosen carefully. This type of database may be best used for providing locations of

and general information about records, while smaller databases can be used to provide

details. Smaller databases may be required to support a larger database by providing

detailed subject analysis. Tibbo indicated (320, 326) that the records of each database

need not be the exact same, but similar enough to identify the same set of records.

Smaller databases must then be thought out, well planned, implemented, and treated

differently than larger databases.

Tibbo concluded (311-312) that the creation of large catalogues may not be

beneficial to the researcher. The merging of numerous catalogues provides many

problems of consistency in descriptors. In the larger databases, researchers may search

more casually and so would have more difficulty with the high recall and low precision in

their results. Planning the set up and implementation is essential to the success of either a

large or small database.

Anne J. Gilliland, staff archivist at the University of Cincinnati, published an article in 1988, entitled "The Development of Automated Archival Systems", which discussed planning and managing an archival database. She emphasized that planning and commitment are the keys to the set up and maintenance of a successful database. Planning is crucial; if it is not done correctly, the system can be adversely affected throughout its lifetime. Gilliland suggested (522-523) that the planning phase is often the most difficult one because the pressures of putting a system in place can override the proper planning of necessary requirements and objectives.

Gilliland pointed out (523) that literature concerning this phase is available. She outlined a work done by Richard Kesner (1984), entitled *Automation for Archivists and Records Manager: Planning and Implementation Strategies*. Kesner (1984, 53-55) suggested that a planning team be established with representation of at least an archivist, a technical specialist, and a user. The archivist would be the project leader, participating in all stages of the pre-planning, planning, and implementation processes and have enough skills to understand both the technical and archival aspects of the project. A technical specialist, who may be from outside the sponsoring organization, could help with the selection of hardware and software as well as know the limitations and capabilities of the software chosen. A user would represent the needs of the archives' users and judge the amount of disruption that the project would cause to necessary services. Kesner specified that the end product must be in line with the organization's mandate and the project's objectives. Although the planning team should be as small as possible, it could also include outside consultants, other computer specialists, and project

managers. However, the project leader must direct the work of the entire team to ensure that the project's goals and objectives are met. If progress becomes slow, then the project leader should have the ability to re-direct, or even re-select, the team.

Gilliland (1988, *The Development of Automated Archival Systems* 524) also outlined an article by Jerome Kanter (1986), entitled "The Role of Senior Management in MIS" from the *Journal of Systems Management*, that discusses the role of a steering committee. Kanter indicated that such a committee would oversee the work of the planning team and set the criteria and priorities for implementation. The steering committee would 'produce a written overall plan for systems development, covering all the major functional areas and clarifying the interrelationships between applications.' The committee would also ensure that management provided a long-term commitment to the system and the necessary funding. To do so, the steering committee would need to look at the entire project's activities and functions. Then, they would need to list the necessary capabilities of a system, including what features might be necessary in the future. This process would also establish time lines and budgetary requirements.

Gilliland and Kesner showed that proper planning and implementation are key to the success of a finding aid database. This aspect of the database process should address most or all of the significant challenges facing archivists as they create online finding aid databases and networks. In general, it appears that the early automation efforts of archivists and archives have been less than satisfactory with insufficient attention being paid to the needs of users. Finding aid databases and networks will only be successful for archivists and researchers alike if they are carefully planned.

Although the library literature does not often discuss the limitations of software, other than MARC AMC, or the advantages and disadvantages of web based catalogues, library databases are certainly farther advanced than archival databases and can be used as good examples. Few of the studies actually include images of the screen layout. Duff and Stoyanova's study does include the screen images in an appendix. The addition of images would be helpful for the reader to evaluate the screens independently of the study. As has been discussed earlier, some librarians, like Cherry, prefer a checklist method which outlines a set of criteria to evaluate a database on its design features. Others, like Crawford, feel that checklists are good to help plan design and pinpoint weaknesses, but, this method should be used only as a guide for design and not be considered the only method for design.

Few of the studies gathered or discussed user-oriented feedback. This hinders the designers' ability to evaluate a database from the users' perspective. Database users must be involved in the design of database displays. Users do know what they want to see in a display and their collective experience cannot and should not be ignored. The Duff and Stoyanova study showed that what users want is very similar to the findings and discussions in library literature. Guidelines to designing a database and its search engine are insistent that a database needs to have elements of readability, consistency, clarity, navigability, regularity, and brevity. These guidelines are supported in the studies done by Cherry, Crawford, Duff, and Hutchinson.

Users also expect different things from a database, so the design must accommodate those expectations. Some users want to do a quick search and find

everything on a topic.[3] Other users want to do an in-depth search and be specific about their topic. Hutchinson and Czeck's studies showed that designers should pay attention to the way in which their users search by designing a database with some flexibility. This can be difficult depending on the size of the database. As Tibbo suggested, a larger database may be difficult to search in-depth. The larger database may best be used as a guide for quick searching. Smaller databases can then be used to support the larger database and to provide details for in-depth searching. Few studies concentrate on the searching capabilities of smaller databases. Most focus on the larger databases.

Larger databases and especially networks need extensive planning for design and searching. However, even the best design does not replace personal contact. Taylor and Crawford suggests that the assistance of a librarian or an archivist is important to the users satisfaction. Both the professional and the database must act in support of the other. This element is missing in the larger databases because online networks further remove personal contact.

Although the majority of these studies concerning automation are from the library perspective, a few important studies have been done from the archival perspective. More archival studies need to be done to gain a better understanding on the needs of the archival profession. The archival literature lacks more detailed research on planning, user needs, designing, and searching databases. There is also little research on the capabilities of smaller databases and software. Although some of the library literature

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[3] Full text and digital documents are more recent aspects of database searching capabilities. Little information has been published on these aspects. What has been published is not discussed in this review because the case study does not include these features.

can be applied to an archival database, it is clear that more in-depth analysis of current

archival database projects is needed. Perhaps one reason for this gap in the literature is

that archival institutions are breaking new ground – and those in Canada are leading the

way.[4]

British Columbia seems to be the earliest example of such a database and it has

been largely a success. Literature written about this database, called the British

Columbia Archival Union List (hereafter known as BCAUL), consists of an internal

report and a published article. The internal report, published on the web, was written by

the Archives Association of British Columbia; the article, published in *Archivaria*, was

written by Christopher Hives and Blair Taylor, both of whom worked closely with

BCAUL. The report and the articles are used here to briefly outline the model followed

in British Columbia.

The database project in British Columbia began in 1991 as a way to promote a

provincial network of archives and encourage those archives to use the same descriptive

standard. The Archives Association of British Columbia (hereafter known as AABC) felt

that an automated union list would be one means to accomplish these goals. But the

goals were larger than a union list, which would only provide information about holdings.

The AABC also wanted to encourage provincial acquisition strategies, effective

conservation programs, and education. To achieve this meant that the AABC had to

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[4] An in-depth Internet search for centralized archival databases with multi-institutional descriptions found no non-Canadian examples. The main sites chosen for this search were the International Council of Archives (www.ica.org) and the UNESCO Archival Portal (www.unesco.org/webworld/portal_archives/). Links on these pages connect to archives all over the world. Certainly many archival databases exist, but none attempt to use a single search database that centralizes descriptions from many archival institutions. The Canadian databases provide this service.

improve cooperation among the institutions and devise a project that would reach all of the members. It also meant that someone needed to go and visit the institutions (Hives and Taylor 1993, 71-73).

Once the goals and objectives of the project were identified, a project archivist was hired to do a feasibility study. He was asked to determine the specifics of the project, like the databases' data elements and data structure, controlled vocabulary and access points, procedures for collecting data and inputting data, data output options, and the hardware/software requirements. All members of the AABC were invited to comment on the study and make recommendations. At the end of the process, a three month pilot project tested the specifications in the study (Hives and Taylor 1993, 73).

The project began by using descriptive standards – RAD – as a vehicle for training and cooperation. Archivists were sent to the participating repositories to work with the institution's staff to apply RAD and collect descriptions. While visiting the repositories, the archivists involved the staff by explaining the aims, goals, and principles of the project before assisting with the hands-on work. They were also open to providing advice about anything relating to archives so as to further train staff. In the end, repositories were able to describe their own holdings according to RAD (Archives Association of British Columbia 1999, 1). During that first year, seventeen repositories contributed 1,500 fonds level descriptions to the database (Hives and Taylor 1993, 73).

Funding for the first year was a partnership between Canadian Council of Archives' Special Projects, British Columbia's Community Archives Assistance Programme, and the AABC. AABC provided in-kind contributions for supervision,

coordination, and leadership (Hives and Taylor 1993, 74). Funding for the rest of the project followed a similar partnership style.

The project was done in three phases over three years. Phase one (1991-1992) consisted of the study and the pilot; phase two (1993-1994) and phase three (1994-1995) was for implementation and outreach. Afterwards, implementation and outreach became part of the regular AABC staff's functions (Archives Association of British Columbia 1999, 1-2).

The success of the British Columbia project may have spearheaded interest in building a nation-wide archival database. In Canada, all of the provinces and territories are being encouraged through the Canadian Council of Archives to build centralized archival databases. Although British Columbia was the first, it is certainly not now alone. Since then, all of the Canadian provinces and territories, save Nunavut, have been working on building databases. Nova Scotia is no exception and began planning a database in 1995.

CHAPTER THREE

ARCHWAY NOVA SCOTIA'S ARCHIVAL DATABASE – BACKGROUND

The Council of Nova Scotia Archives (hereafter known as the CNSA) was established in 1983 with twenty members (McBride 1993, 170). According to the CNSA's web site (1996), the CNSA now has over one hundred members including the Nova Scotia Archives and Records Management (hereafter known as NSARM), representatives from community archives and museums, university and religious archives, heritage associations, corporations, and individual members. The CNSA also has two full time staff, one for education and outreach activities in the areas of preservation management, appraisal, disaster preparedness, description, and special media workshops, and a second for the database project. There are four standing committees for awards, grants, education, and preservation under the auspices of the CNSA's Executive Committee. A central function of the CNSA's activities since 1996 has been a provincial archival database called ArchWay. Although the development of the database project is recent, the concept was one of the foundations for the formation of the CNSA.

Since 1967, the number of archival institutions, including heritage institutions with archival collections, in Nova Scotia has grown from one or two to over one hundred. During the 1970s, archivists in the province realized that this growth could lead to conflicts and even competition over potential acquisitions. In 1982, Robert Morgan, Director of the Beaton Institute, prepared a discussion paper about the formation of a cooperative Nova Scotia archives council. In that paper, Morgan identified two problems

facing archival institutions in the province: one, the need to improve communications

among the institutions; and two, the need to set standards for developing archival

institutions. At the time, he foresaw two possible solutions – a computer network for

exchanging information and the formation of a provincial association. The first

alternative involved cooperation among institutions by exchanging information about

their holdings and 'eventually developing a provincial computer network whereby subject

references can be transmitted to researchers from archives via the [provincial archives].'

The second alternative was to form a provincial association that would enforce archival

standards and provide workshops. Morgan (1982, 6) pointed out the time was ripe

because there was

> funding available from the Social Sciences and Humanities Research Council of
> Canada for the development and organization of computer systems (including
> hardware) in archives. Rather than each archives pursuing its own system, a
> province-wide archival network could be set up immediately.

This document provided the impetus for Morgan and other archivists to form the

Council of Nova Scotia Archives in 1983. Membership was open to all archives in the

province regardless of the level of jurisdiction and stage of development. The needs of

the repository could then be addressed by the CNSA (McBride 1993, 166). At the first

meeting in April 1983, the members chose to set aside the idea of a computer network in

favour of establishing archival standards and providing archival workshops. That

mandate remains unchanged. In 2002, the CNSA is a voluntary organization that

promotes accepted archival standards, procedures and practices among archival

institutions and organizations. It also provides members with educational development

for archival issues and provides liaison between the members and the Canadian Council

of Archives.

But the CNSA has always been in a position of financial dependence, relying on

the federal and provincial governments for support instead of its own members. In 1983,

many of the smaller archival institutions in Nova Scotia did not control their own

budgets, as they were part of larger institutions and directly dependent on them. So, to

encourage archival institutions to join, the CNSA membership fees were set low and have

remained so to this time. This meant that the CNSA could not rely on its own members

to support its operational funding requirements. Even though the CNSA received many

in-kind services from the Public Archives of Nova Scotia (hereafter known as PANS),

operational funding has always been a problem for the CNSA (McBride 1993, 167-169).

Currently, the Canadian Council of Archives (hereafter known as the CCA) funds

most of the grants to the CNSA, including those that support the CNSA's own staff. The

CCA was formed in 1985 as the core element in the federal, provincial, and territorial

archives' plan to build a Canadian Archival System. In 1989, the CCA (1995,

Retrospective 1985-1995 15, 16) set its priorities as control of holdings, descriptive

standards, a national conservation strategy, conservation research and development,

conservation of holdings, education, and a national acquisitions strategy. The CCA has

five goals:

- identify national priorities;
- make recommendations [to the National Archivist] as to the system's operation and funding;
- develop and facilitate the implementation and management of programs to assist the archival community;

- promote better communications between the various components of the Canadian archival system; and
- communicate archival needs and concerns to decision-makers, researchers and the general public.

The Canadian Council of Archives also derives its representative character from the creation and development of provincial/territorial networks. The activities of these networks are coordinated by provincial/territorial councils, which in turn are represented on the Canadian Council. Archives and regional associations may thus voice their needs and expectations to the CCA. This helps the Council tailor its policies and programs to reflect archival needs and requirements both regionally and across the country.

These priorities determined the types of funding that the CCA would make available to the provincial and territorial councils for funding certain activities. Table 3 – 1 breaks down the annual contribution to the CNSA from the CCA.

Table 3 – 1   CCA's Contribution to CNSA for the Control of Holdings[1] (here called Arrangement and Description or A & D), Professional Development and Training Program[2] (here called Education), Conservation Plan for Canadian Archival Records[3] (here called CPCAR), and Special Projects[4]
(Compiled from Price 1995, Canadian Council of Archives / National Archives 1986-1996 : Federal Funding Support of Council of Nova Scotia Archives; Canadian Council of Archives, 1995 *Retrospective 1985-1995*; and, Canadian Council of Archives annual reports from 1997-2001)

Year	A & D	Education	CPCAR	Special Projects	Total
1986	$70,567.62	N/A	N/A	N/A	$70,567.62
1987	$79,450.00	$8,400.00	N/A	N/A	$87,850.00
1988	$37,656.00	$22,650.00	N/A	$0.00	$60,306.00
1989	$87,000.00	$3,000.00	N/A	$10,000.00	$100,000.00
1990	$95,000.00	$5,000.00	N/A	$0.00	$100,000.00
1991	$94,013.00	$514.00	$32,993.88	$0.00	$127,520.88
1992	$55,725.00	$44,218.00	$58,125.00	$0.00	$158,068.00
1993	$40,850.00	$47,150.00	$52,313.00	$0.00	$140,313.00
1994	$35,718.00	$54,295.00	$52,313.00	$0.00	$142,326.00
1995	$29,384.00	$50,616.00	$46,109.00	**$7,500.00	$126,109.00
1996	$20,491.00	$52,377.00	$43,160.00	$0.00	$116,028.00
1997	$17,638.00	$51,443.00	$41,227.00	$0.00	$110,308.00
1998	* $0.00	$50,426.00	$34,917.00	*** $18,005.00	$103,348.00
1999	* $0.00	$49,650.00	$35,812.00	**** $19,162.00	$104,624.00
2000	$3,334.00	$50,900	$35,812.00	*****$38,354.00	$127,614.00

* Forgone by membership to fund the ArchWay project
** Funding for ArchWay feasibility study, called the *Archival Database Project: Final Report*
***Funding for ArchWay Archivist; CNSA contributed $26,153.00
**** Funding for ArchWay Archivist, CNSA contributed $22,096.00
*****Funding for ArchWay Archivist, CNSA contributed $15,352.00

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[1] Control of Holdings program reduces the backlog of unprocessed material by funding the preparation of finding aids.

[2] Professional Development and Training Program assists in professional development and training through workshops, seminars, and other training opportunities.

[3] Conservation Plan for Canadian Archival Records program assists in preservation activities excluding professional development and training.

[4] Special Project Program is for projects that meet provincial and territorial priorities and contribute to the development of archival science. Funding under this program does not exceed 20% of the allocation of the regular programs.

Federal funding remains as the primary source of support for the CNSA. Money received through the CCA has originated with the Department of Canadian Heritage via the National Archives of Canada. Over the past decade, cuts to that aspect of the National Archives' budget have impacted on the CCA's budget. This has caused a trickle down effect, impacting on all of the provincial and territorial councils. As shown in Table 3 – 1, the result is that less federal money has been coming to the CNSA for program activities, staff, and grants, such as the Control of Holdings and Conservation Plan for Canadian Archival Records (Price 1999, 1).

In addition to CCA funding, the CNSA has needed secure provincial funding but obtaining it has always been difficult. The central problem has been that despite the federal government's lead in providing funding to the province through the CCA, Nova Scotia's provincial government has not been eager to assist archival institutions by providing additional core funding. Morgan had written the 1982 discussion paper for the Deputy Minister of Culture, Recreation and Fitness of Nova Scotia to solicit core funding for the CNSA that but funding was slow in coming. In 1986, the provincial government began support of the CNSA, but only in the amount of $5,100 annually, which stayed constant for subsequent years[5] (McBride 1993, 165, 170).

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[5] Anita Price explained in her 1999 article to the CNSA newsletter (1-2) that the members of the CNSA indirectly contributed to the province's lack of financial support. During the 1980s, the Cultural Affairs Division of the department of Culture, Recreation and Fitness provided funding to cultural organizations in Nova Scotia. These organizations, which were mainly museums, then formed the Cultural Federation of Nova Scotia. But, because the CNSA was closer to PANS than to the Nova Scotia Museum, it did not join the Cultural Federation. When the Cultural Federation lobbied for more financial support from the Nova Scotia government during the late 1980s, the CCA was already in place and providing funding to the CNSA. The CNSA did not anticipate cuts to that source of funding, so it did not participate in lobbying the provincial government with the Cultural Federation. Soon after, cuts on the federal level began to affect the types of funding provided by the CCA. Money for grants like the Control of Holdings and for staff

By the early 1990s, the CNSA was in an operational funding crisis. The CCA's

funding was earmarked more for projects identified by the entire Canadian archival

community, such as workshops, backlog reduction, preservation, and a national network

of archival descriptions; money was not earmarked, nor was it intended, to provide

operational support for the provincial and territorial archival associations. At the 1992

annual general meeting, the formation of a futures committee was proposed to determine

future directions for the Council in relation to funding. The Committee was given a

mandate to investigate the possibility of increasing provincial funding. But the

Committee's reports indicate that it took a different focus soon after its inception and

funding was not addressed.[6] In April 1994, the idea of a new committee, called the

Advocacy Committee, resurfaced at the annual general meeting. The CNSA Executive

Committee expressed that an Advocacy Committee be formed to investigate the

possibility of increasing provincial funding. But the Advocacy Committee was later

reported to be 'unworkable' as it did not attract volunteer members and did not have any

money to operate (Yorke 1995, 6). At a meeting in November 1994, the Executive

Committee examined the CNSA's financial situation and decided that their first priority

was to get more core funding to support operational needs.

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would continue; but, in keeping with the CCA's mandate, operational money would not be provided. As a result, the CNSA's core funding was insecure and the Executive Committee foresaw a funding crisis.

[6] The Future Development Committee studied the concept of regional archives, cultural tourism and its impact on Nova Scotia's archives, the role of archives in the 'cultural milieu' of the province, the need for publicity of Nova Scotia's archives, and training and professional development for the members (Morgan 1993, *Futures Committee Report*, 5). The Committee's report recommended that the CNSA Executive adopt membership categories, do a market study of archival users, and implement a regional archives concept (Morgan 1993, *Future Development Committee Report*, 11). By the 1994 annual general meeting, the Committee reported its tasks completed and requested that it be disbanded (Council of Nova Scotia Archives 1994).

The CNSA's President was frustrated and worried that the CNSA would not be able to continue without more operational funding. At the 1995 annual general meeting, she reported that the Executive anticipated

> that federal funding may be eroded to the point where we can no longer support our contract employees, nor sustain our present programmes and services. Conversely, given our present operational framework, we can neither expand further nor develop new projects to assist our membership. The conclusions are obvious: if we do not develop a strategy for replacement and/or additional funding, the CNSA runs the risk of imploding into itself and reverting to the status quo of the late 1980s (Yorke 1995, 6).

Given this situation, the CNSA wanted to secure an increase in provincial funding. To do so, the Executive decided that it needed to define a project that would attract the interest and support of the provincial government. This decision was critical to the development of the CNSA and affected the direction of the Executive for the next several years.

At the same time the Executive was looking at future sustainability, it was reviving Morgan's original idea of a computer database to inventory all of the archival holdings in the province. Although this idea received little attention by the CNSA after 1983, the time now appeared right for a provincial archival database. British Columbia and Alberta had already begun to build provincial archival databases and the CCA began funding projects supporting the creation of a national archival database. PANS was also looking at automating some of its archival functions – including a database of holdings (Gimian 1995, 1). So, the idea of building a Nova Scotia archival database was not new; however, it was a large undertaking that needed the support of the CNSA members, for both cooperation and descriptions, and also required secure sources of sustainable funding.

The Executive saw this as the project that the CNSA needed to attract provincial government funding and support. Writing to the CNSA President in November 1994, the CNSA Grants Committee Chair connected the need for core funding to a database project by saying that:

> while government funding of cultural organizations is dwindling, its support of various technological advances is strong and growing. [*Sic*] A funding opportunity for an executive officer position may lie in slanting an approach to government to emphasise council links to the 'Information Highway' (Price 1994, 1).

In order to begin the database project, the CNSA would need an increase in its operating grant from $5,100 to $20,000 for the 1995/1996 fiscal year. The increase would potentially provide a salary for a part-time clerical support staff and travelling expenses for members to attend database meetings around the province (Price 1995, *Focus on the Future* 1-2).

At the 1995 annual general meeting, the President explained to the membership that:

> the Executive has developed the concept of an electronic Provincial Archival Database, comprising an inventory – likely at the fonds level – of all archival holdings within Nova Scotia. This database would be available to researchers, visitors and interested 'browsers' throughout the province, across Canada and internationally, via the technology and opportunities offered by the Information Highway (Yorke 1995, 6).

After explaining the database project and its implications at the 1995 annual general meeting, the President asked the membership for a motion of approval. The motion read 'that the CNSA membership approves, in principle, the project proposal and general directions as outlines in the CNSA Advocacy Initiative Report; and supports the CNSA

Executive in continuing such a funding initiative.' The motion was supported by the

membership.

In anticipation of support from the membership, the Executive had already met

with the Provincial Librarian, the Provincial Records Manager, and a representative of

InNOVAcorp[7] to discuss the database. Six weeks prior to the 1995 annual general

meeting, the CNSA held a roundtable to discuss the possibility of an increase in

provincial funding and a database project. The minutes from this CNSA Roundtable

Forum reflects that is was a brainstorming session to give the Executive an idea as to how

to proceed with a database project. The Executive proposed that an eighteen-month

feasibility study was needed to look at the possibility of a provincial archival database.

The study would identify potential stakeholders, determine the necessary data structures

and software, examine government opportunities, and examine the possibility of sharing

money and equipment with provincial government departments. The Provincial Records

Manager was of the opinion that a study was not necessary and CNSA should simply

adopt the model already in place in British Columbia[8]. He noted that technical reports

would be more useful to specify hardware / software requirements and costs. He advised

the CNSA to immediately contact British Columbia's archival association to see if it

would share their findings. Then, a plan of action could be written to specify timelines,

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[7] InNOVAcorp was a crown corporation created to bring focus on and promote the commercial aspects of the technological industry in Nova Scotia.

[8] The British Columbia model is discussed in the literature review in Chapter 2.

personnel, and budget costs.[9] The representative from InNOVAcorp indicated that the project would need a commercial spin rooted in community economic development to acquire financial support. He claimed that the commercialization came from the archives' promotion of cultural tourism. If the CNSA could get a private sector partner too, the project would follow more closely with InNOVAcorp's funding guidelines. An economic development strategy would be necessary along with a business plan before the provincial government could be approached. This meeting appeared to set the tone for the provincial government's reluctance toward increasing CNSA funding. It was clear that the Executive had to do a lot more work before the provincial government would consider an increase in funding.

Still, the Executive did not abandon the fight for provincial funding. In September 1995, representatives of the CNSA met with the Minister of Education and Culture for Nova Scotia. During that meeting, the CNSA representatives provided the Minister with background information on the CNSA and its activities before explaining the database idea. The financial state of the CNSA was also presented. Then, the CNSA requested new monetary resources to hire an administrative assistant for the database project, hire a consultant to do a feasibility study and define potential partners, write a business plan, and fund travel costs of CNSA members involved in planning (Gimian 1995, 1). Unfortunately, the CNSA did not make a strong enough case for an increase in

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[9] Shortly thereafter, the CNSA did send a representative to British Columbia. At that time, the BCAUL project was at the end of phase three. The CNSA representative discovered that the software used was limiting future options for BCAUL. So, her recommendation to the CNSA was not to use the same software as it was already out dated. She also recommended that for acquiring the descriptions from archives, the CNSA follow AABC's example of using funding to hire an individual to go to the sites (Price 2001).

provincial funding, as it did not have a business plan to present to the Minister. As a result, this meeting was not successful in convincing the Minister to increase the provinces' financial support of $5,100 annually (Gimian 1996, 1). Still this lack of provincial support did not discourage the Executive.

A second roundtable strategic session on the database project was held in October 1995. The discussion notes from this brainstorming session indicate that it was not unlike the one in March, involving many of those interested in the project including key CNSA members and representatives from PANS and the provincial government. As he had advised at the Roundtable in March 1995, the representative from InNOVAcorp again stressed that the database project needed to be tied to the cultural tourism industry. The provincial government was interested in helping to fund projects that partnered – directly or indirectly – with the private sector to induce cultural tourism. The CNSA was urged to use this project as an opportunity to encourage partnerships rather than as a direct attempt to secure more provincial funding. Before any search for partners could be made, the InNOVAcorp representative strongly encouraged the CNSA to develop a strategic plan and a business plan. Planning was critical to determine the project's goals and induce partnerships.

The possibility of the CNSA developing its strategic plan with the assistance of PANS was also advanced. Participants at this second Roundtable agreed that the CNSA and its largest member, PANS, might be able to share technology and resources. This was encouraged not only because the two organizations had worked closely in the past, but because PANS was moving ahead with its own automation plans and strategic

planning initiative. PANS had already received $20,000 from the provincial government

for their automation project. This money would be used to purchase new equipment and

to upgrade its local area network. A planning strategy, it was suggested, should be done

by the CNSA in conjunction with PANS. The discussion notes from this Roundtable

show that as part of a planning strategy, the participants advised the CNSA to create a

database steering committee made up of selected people from the CNSA and PANS.

Members of the steering committee would be champions of the database project,

understanding the need for a database, exploring partnerships, and committed to the

project.

Although there was a great deal of interest on the part of the CNSA membership,

a committee was not struck for almost a year. The delay was due to a lack of funding for

a feasibility study. But at the end of 1995, the CCA was planning a national database

project. This larger project would depend on the creation and success of provincial

databases. As a result, the CCA set aside money for provincial database feasibility

studies (Price 1999, 2). In 1996, the CCA provided the CNSA with $7,500 for its

feasibility study. At that point, the CNSA began to look for those members who were

committed to the project and willing to sit on a steering committee (Gimian 1996, 5-6).

The first Feasibility Study Steering Committee meeting was held in June 1996.

Members of the Committee included several PANS staff, CNSA staff, and a number of

representatives from other institutions, including representation from Saint Mary's

University Archives, Dartmouth Heritage Museum Archives, and the Nova Scotia

Museum.[10] At the first meeting, the Committee decided that it wanted a web site for the

CNSA with a membership database and a database of descriptions. The Committee's

minutes of June 19, 1996, also show that they had decided to use the CCA's feasibility

study money to contract a consultant to facilitate the CNSA study. The consultant, who

prepared PANS' Strategic Planning Initiative in 1996, was considered well suited to do

one for the CNSA too. By the meeting on August 14, 1996, Nielsen Consulting agreed to

work with the CNSA and do a feasibility study for a database project. The study was

expected to identify database standards, funding sources, and stages of progression. The

end report would be a discussion paper for CNSA member institutions and stakeholders,

such as the government, museums, libraries, and regional archives.

Nielsen Consulting's interim study was first presented to the Committee at its

meeting on February 6, 1997. The proposed database project was to occur in three

phases – phase 1, the creation of a test pilot; phase 2, the creation of a provincial

database; and phase 3, linking with PANS and any other partners. The study was based

on consultations with the Nova Scotia Museum as well as museums, libraries, and

archives in the Maritimes. The consultant then visited members and discussed the

interim report with them in Yarmouth, Halifax, and Cape Breton. Although the

membership was in favour of the project, some concerns were expressed. At the CNSA's

annual general meeting on June 20, 1997, members urged the CNSA to seek additional

provincial funding instead of stretching current funds. Members were also concerned

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[10] It is important to note that although the composition of this first Committee remained the same throughout the entire database project, the Committee's name itself changed several times during that project: Feasibility Study Steering Committee (1996), Database Development Project Steering Committee (1996-1997), Database Steering Committee (1997-1998), and ArchWay Steering Committee also known as the ArchWay Committee (1998-1999).

that an increased Internet profile would attract too many research requests. Many of the small and volunteer, and seasonally operated organizations were worried that they could not handle an increased demand on their resources. Despite these concerns, the minutes reflect that the membership accepted the final *Archival Database Project : Final Report* at the annual general meeting.[11]

The *Archival Database Project : Final Report*, completed by Nielsen Consulting in 1997, explored the database concept in detail, outlining the benefits of the project, the progression of the database, the personnel required for the project, and the potential sources of funding. The benefits of the project included an increase in professional standards, greater "interconnectiveness" between members, increased accessibility of archival material, an education and outreach project for all CNSA members, increased public awareness of the role of archives, and a focus on funding initiatives.

Nielsen Consulting's report (16-17) indicated that the personnel for this project should not be volunteers. The consultant envisioned that volunteers, from the Executive, the Database Committee, and the archival institutions themselves, might be used for the overall management of the project. More than one paid person should be used to implement the project. This would allow the project to keep on schedule and accommodate unforeseen delays that might arise. Nielsen Consulting recommended up to three people on the project who would work independently or as a team depending on the situation and schedule. One person would be full time; two would be part time.

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[11] One might presume that this report was discussed at the meeting. However, any further discussion of the final *Archival Database Project : Final Report* at the annual general meeting does not seem to have been recorded in the minutes.

Implementation of the database would be in three phases. The *Archival Database*

Project : Final Report (15, 17-18) envisioned that a phased approach would start with

those archives that had descriptions ready for inclusion. This would build the database

while allowing slower members to prepare their descriptions. Phase One would begin in

1998 and take 14 months to complete. This phase would involve select archives across

the province, beginning with the holdings at PANS. During this time, any potential

logistical problems could be identified. Phase Two would take between two and three

years to complete. This phase would involve most of the other archives in the province.

Phase Three would have no time line for completion. This phase would deal with

archives that are having problems getting their descriptions ready for the database. This

phase would carry on as a part time project.

The study estimated that the purchase of a server and software would be $28,000

or more. When personnel and expenses (i.e. administration, travel, communication,

educational materials) were added, the costs of the project would be between $55,000 and

$70,000 per year. At the time of the report, the CCA could contribute $52,000, the Nova

Scotia government was contributing $5,100, and the membership fees brought in $3,000.

Part of Nielsen Consulting's study was to identify potential sources of funding. The

consultant offered four possibilities (19-22):

1. the use of student grants could be used to do small facets of the project. Several

    programs were available: NS Links, Computer Equipment Recycling Technical Work

    Experience Program, Nova Scotia Summer Employment Program for Students,

Community Access Programs, Young Canada Works, and SchoolNet Digital

Collections Project.

2. grants from foundations that might fund archival projects and regional companies. It

   was suggested that this would to be a time consuming process.

3. economic renewal grant programs. Proposals for this type of funding needed to show

   the economic impact of the project and its contribution to the Nova Scotia economy.

4. an increase in the annual provincial contribution. The consultant said that although

   this had not been successful to date, it should not be abandoned.

In the executive summary of the report (2), Nielsen Consulting indicates that

> [the] project will create an electronic database, to hold a union list of the archival
> holdings of CNSA members which will be available to both council members and
> interested users of the Internet. This project is feasible as the required technology is
> available and less expensive than in the past, the archival community network is well
> developed and has increasing levels of professional standards, and the Council has the
> required organizational skills for a project of this magnitude. The one major hurdle to
> overcome is securing funding for this project; however, there are various funding
> alternatives that hold promise for this type of project.

With the membership's endorsement of the database project and its report at the 1997

annual general meeting, the database Committee turned its attention to phase 1 – the

creation of a test pilot. Before a test pilot database could be created, the Committee

needed to clarify its vision of the database. At the meeting on December 10, 1996,

Committee members agreed that the vision was of a searchable, archival holdings

database that would be accessible without cost to both CNSA members and others. This

database would be a search tool only and not provide the actual records online.

Descriptions would be at the fonds level; the addition of lower description levels would

not be done unless the software had multi-dimensional capabilities. The final product might be either a separate database or one that could unite databases from the member institutions. With this vision in mind, the Committee set out to build a test product for evaluation.

To build a test pilot database, the Committee met on June 20, 1997 and decided to apply for a Young Canada Works grant with Industry Canada. The Young Canada Works incumbent would build a small database as a test and to discover any potential problems in terms of inputting and searching descriptions. Lessons learned from the test pilot database would then be applied to a larger database project. The Young Canada Works application was approved and Mary Claire Beaton was hired in July to work on the test pilot database. Microsoft Access was chosen as the software because it was familiar to the incumbent. By the meeting of July 19, 1997, Beaton reported that she had collected a number of fonds level descriptions for the test pilot database. On August 15, 1997, she was able to demonstrate the database to the Committee. Containing 32 descriptions, the database was searchable by subject, institution name, and keyword only with no browse function. Each of the fields led the user to an appropriate fonds description. Although the test pilot database was not user-friendly, it did prove that such a project was possible.

With the lessons learned in August from the test pilot database, the Committee was anxious to develop a stronger, more inclusive database project. PANS assisted this phase of the project by allowing the CNSA to join its Local Area Network with two workstations. PANS had also purchased software, called GENCAT, in September 1997

and it offered the use of its server and software to the CNSA. This offer was accepted by

the Committee and endorsed by the CNSA Executive on September 30, 1997. At this

point, the CNSA had equipment and software for the project. The Committee felt that it

should start searching for a database name. The proposed name for the database was

'ArchWay' – a name that the Executive supported on October 13, 1997, and the

membership later endorsed at the annual general meeting on April 22, 1998.

Funding for a temporary full time staff person, the ArchWay Archivist, was also

in place for the beginning of 1998. As determined at the meeting of July 18, 1997, the

Committee would apply for a second Young Canada Works grant to fund an ArchWay

Archivist. The incumbent would assess the training needs and requirements to facilitate

planning for future training opportunities and for the production of policy and procedures

for the growth and ongoing maintenance of the database. In August 1997, the Committee

received word that funding for another Young Canada Works grant was approved to

expand on the test pilot database. This grant funded an archivist to travel the province,

gathering and editing RAD descriptions to add to ArchWay. A training component for

RAD, hypertext mark-up language, and GENCAT was also necessary to coincide with

this part of the project.

To prepare for the ArchWay Archivist's arrival, the Committee started looking for

institutions to participate in the next section of the database project. In the minutes of

December 16, 1997, they decided that the representative institutions needed to be mostly

outside of the Halifax area, have differing acquisitions mandates, and that at least one

should be primarily French. For these reasons, the Cumberland County Museum and

Archives, Archives du Centre d'Acadien, Argyle Township Court House and Archives, PANS, and Bethany Archives were all targeted for inclusion. These selections did provide the Committee with a representative sample, but another challenge presented itself. It was discovered that the Young Canada Works grant could not be used for travel, room, or meals. To help provide some money for travel, 10% of the CCA's Conservation Plan for Canadian Archival Records money was diverted to ArchWay – a total of $4,122.70 (Council of Nova Scotia Archives 1997, 17). Participating members outside of Halifax were approached to assist the project directly by supplying a room and meals for the ArchWay Archivist. This situation limited the number of institutions who were able to participate in the pilot. Despite these challenges, the incumbent began in January 1998.

For the next Committee meeting on January 19, 1998, the ArchWay Archivist reviewed the test pilot database. She concluded that CNSA members would have to standardize their descriptions. This could be done over the long term through workshops; but the best method for training was to work in and with the staff at the chosen institutions. The direct training method proved successful. By February 14, 1998, the ArchWay Archivist reported to the Committee via e-mail that she had collected 56 descriptions from the Bethany Archives and the Antigonish Heritage Museum. In her e-mail of March 11, 1998, she reported visiting the Argyle Township Court House and Archives, the Cumberland County Museum and Archives, and the Archives du Centre d'Acadien, collecting 54 descriptions and providing the staff with training in *RAD*. NSARM (called PANS until 1997 when the archives joined with the province's Records

Management Program) appointed a liaison to work with the ArchWay Archivist to load its descriptions onto ArchWay.[12] With over 100 descriptions on the database, the ArchWay Archivist prepared to display the database to the members at the 1998 Spring Conference in April and expected to have the database online in the Fall.

By October 7, 1998, the Committee planned to have an online demonstration of ArchWay in the late Fall or early Winter of 1998. Before this could be done, the database needed to be made more user-friendly. This meant the creation of a gateway, help screens, a search template, a format for descriptions, a comments page, and a sample search. Bi-lingual screens also needed to be considered. The Committee decided that it was necessary to have subject access to the database with a searchable controlled vocabulary. With this in mind, the ArchWay Archivist changed her focus from training and collecting descriptions through site visits to getting ArchWay ready for public demonstrations. November, December, and January were spent getting the screens ready. On February 15, 1999, the online demonstration version was announced to the membership. By April 1999, the ArchWay Committee Chair reported at the Annual General Meeting that the online prototype contained 295 fonds descriptions for 21 institutions (MacLeod 1999). At this point, ArchWay was no longer in the development stage and did not need a 'steering' committee. The Executive met on June 11, 1999, to discuss the future of the ArchWay Committee. ArchWay was considered important to the Executive and the minutes reflect that it decided to disband the ArchWay Committee and take on the administration of ArchWay itself.

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[12] NSARM's database and ArchWay are two different databases sharing the same software but with different appearances.

The Executive planned the official launch of ArchWay for May 25, 2000, immediately following the annual general meeting. To prepare, the ArchWay Archivist continued to do site visits and collect descriptions. On February 11, 2000, she reported to the Executive that the database had 510 fonds. The Executive wanted at least 1000 fonds in time for the launch but this expectation did not happen. The ArchWay Archivist spent much of the next few months refining the database and preparing it for the launch. By the Executive meeting on May 4, 2000, very few additional site visits were done and so further descriptions were not collected. ArchWay was indeed launched on May 25, 2000 but it did not meet the 1000 fonds target; instead, approximately 600 fonds were included at the time of the launch.

The ArchWay project was successful in producing a working database and providing some direct training, but it still did not attract sustainable funding for the CNSA. Early in 1997, the Database Steering Committee took up again the idea of developing a business plan to attract potential funding. Although the 1997 annual general meeting minutes show that CNSA members had voted to transfer approximately $15,000 from the CCA's Control of Holdings grant to assist in funding the database project, this was to be a last resort. The Database Steering Committee was also told on June 20, 1997, that the CCA wanted the CNSA to find other potential monetary resources before it would make money available to the provincial council. InNOVAcorp had turned down funding for the project in January 1997. This should not have been entirely unexpected. Between the roundtables in 1995 and December 1996, the CNSA had not taken steps to

meet InNOVAcorp's criteria nor did the CNSA find any private partners or address their

place in cultural tourism.

In the Report of the ArchWay Steering Committee Chair to the membership at the

annual general meeting in April 1998, the top priority of the Committee was identified as

the *ArchWay Project Proposal* (Gimian 1998). By the time of this proposal, the CNSA

had the necessary hardware and software. A pilot project, identified as Phase One, of six

archives had also been completed. Although the proposal had potential to attract local

business financial support, the *ArchWay Project Proposal* (Table 3 – 2) was written

mostly for the provincial government and asked for money for Phases Two and Three of

the project. Phase Two was estimated to cost $77,275; Phase Three was estimated to cost

$83,400 (Council of Nova Scotia Archives 1998, 2).

Table 3 – 2 ArchWay Project Phases with Timelines, Total Costs, and Task Breakdown (Based on Council of Nova Scotia Archives 1998, *ArchWay Project Proposal*)

1. Development Phase 1995-1997   **total cost $64,000**
• surveying membership and obtaining their support for ArchWay • developing and maintaining website • networking with other heritage organizations (i.e. museums, libraries) • networking with CCA • developing demo database • surveying and selecting equipment and software Funding for this phase came from CCA grants and from the CNSA's provincial allotment and membership dues. In addition were volunteer hours and in-kind contributions of the server, software, and office space.
2. Phase 1, Pilot, January – April 1998   **total cost $20,500**
• verifying and planning the time and training requirements in a variety of institutional settings • collecting and creating descriptions of archival material in six institutions in Nova Scotia representing a varied geographic and institutional type sample • entering descriptions into database • developing effective and user-friendly interface (both for inputting data and searching) • making recommendations for continuation of project Funding for Phase 1 was done through a YCW grant, through in-kind contributions of NSARM, and through direct and in-kind contributions of CNSA.
3. Phase 2, Initial Implementation, May 1998-March 2000   **total cost $77,275**
• gathering remaining descriptions from approximately 74 institutions • checking description for *RAD* compliancy • entering descriptions of all member archives on-line • bringing ArchWay on-line with initiatives in other provinces • training members in use of ArchWay • building a current subject headings file for Nova Scotia • publicity of ArchWay In 1998/99, CNSA had a commitment of $45,125 (sources are not specified) and needed $28,175 (supposedly from government) for the ArchWay Archivist's full salary, travel, and hardware. In 1999/2000, CNSA had a commitment of $23,700 (sources not specified) and needed $49,100 (supposedly from government) for the ArchWay Archivist's full salary, travel, and training.

4. Phase 3, Implementation and Integration, April 2000-March 2003	total cost $83,400

- editing and updating data and integrating the database within the national database initiative's framework
- ongoing training for new members and promoting use of ArchWay
- collecting and entering description from new members
- bringing ArchWay on-line with other heritage/cultural databases in Nova Scotia

Funding for Phase 3 was estimated at $27,800 per year for the ArchWay Archivist's salary half time, travel, and hardware/software.

The *ArchWay Project Proposal* (Council of Nova Scotia Archives 1998, 2-3) identified the objectives of Phases Two and Three as:

- to improve one's ability to locate archival resources throughout the province by shortening the search for records and providing a central index to archival repositories.
- to improve the level of standardization of descriptions and access tools.
- to improve the standardization of archival descriptions.
- to improve communication between members.
- to improve public awareness of archival resources and the institutions which hold them.
- to strengthen links between archives and the wider heritage/information communities.
- to forge business links.
- to provide training to enable archives to improve practices by using electronic resources.
- to provide training in the application of archival techniques to new technologies.
- to establish a system of periodic review of training and descriptive practices.

This proposal contained a business plan, and was intended as an appeal to the Provincial Government for funds and not aimed at private investors. On June 25, 1998, the CNSA President e-mailed the ArchWay Committee members to say that the Minister of Education and Culture had discussed the *ArchWay Project Proposal* with representatives from the ArchWay Committee, members of the Nova Scotia Museum,

and the Provincial Archivist. The CNSA had asked the government for over $45,000.

On October 7, 1998, the Committee was informed that as a result of the meeting with the

Minister, the CNSA's annual provincial funding was to increase from $5,100 to $17,000

(Price 1998, *Archway funding*). The Executive had hoped the allotment would be

increased to $28,000 in the next budget year; so it was clear that the CNSA would have to

find other funding sources to keep the ArchWay project going.

The Provincial Archivist felt that the Committee should try for sustainable federal

money. The CCA was moving forward with its plans to build a national database, called

the Canadian Archival Information Network (hereafter known as CAIN). Even though

CAIN was still just a concept with no financial backing, the provincial and territorial

archival councils were asked by the CCA to provide a breakdown of their database

funding needs. The CNSA's funding breakdown was reported to the Executive at their

meeting on May 20, 1998. The CNSA President determined that between October 1998

and March 2003, ArchWay needed a total of $513,000. Annual, the budget allocations

were: two archivists at $40,000 each, travel for one archivist at $15,000, one name

authority person at $24,000, IT support at $3,000, and two laptops at $3,000. The plan

outlined the need for two archivists: one housed at NSARM and one to travel around the

province (Price 1998, *CNSA : CAIN ArchWay Project*).

By October 1998, the CCA published a *Blueprint for the Canadian Archival

Information Network* (7-9) that more clearly defined the proposed CAIN funding streams

based mostly on provincial and territorial requirements. There would be five streams in

total: one, preparation and entry of descriptions; two, functional requirements including

manpower, hardware, administration, upgrading; three, controlled vocabulary, scanning, and finding aids; four, training of *RAD*, hyper text mark-up language, data entry, software, scanning; and, five, management and administration. The CCA identified the total CAIN costs to be $15 million, 50% or $7.5 million of which would be requested from the Federal Government. Of that, $500,000 would be allocated to Nova Scotia through the CNSA over four years: $150,000 both in 1999/2000 and 2000/2001, $100,000 in both 2001/2002 and 2002/2003 (Price 1998, *CAIN Funding Streams*). The conditions to receive the allotment included making an application and matching the allotment with non-federal money and in-kind contributions. The money could be used for any of the funding streams. However, the provincial and territorial councils needed to predetermine what to do with their allotment before making an application.

In December 1998, the CNSA was asked how it would spend the CAIN money if the CCA was successful in obtaining funding. The CNSA President drafted an annual breakdown based on the feasibility study, the known ArchWay costs, the need of the CNSA to have administrative funding, and the technical cost relationship with NSARM. The draft (Table 3 – 3) provided a general idea – not a formal template – of how CNSA would spend the money.

Table 3 – 3 Proposed Use of CAIN Funding by the CNSA
(Based on Price 1998, *CNSA : CAIN ArchWay project*)

	Use of Funds	Funds Requested	Funding Stream
1999/2000	Two "ArchWay" Archivists	$90,000	One
	One Data Entry Person	$35,000	One
	Administration	$15,000	Five
	Technical Network/Support	$7,000	Two
	Training	$3,000	Four
Total		**$150,000**	
2000/2001	Two "ArchWay" Archivists	$90,000	One
	One Data Entry Person	$35,000	One
	Administration	$15,000	Five
	Technical Network/Support	$7,000	Two
	Training	$3,000	Four
Total		**$150,000**	
2001/2002	One "ArchWay" Archivist	$50,000	One
	One Data Entry Person P/T	$18,000	One
	Administration Costs	$10,000	Five
	Training	$12,000	Four
	Pilot-project Scanning	$10,000	Three
	Technical Support	$2,000	Two
Total		**$100,000** **	

** Price's calculations were incorrect; this figure is actually$102,000.

	Use of Funds	Funds Requested	Funding Stream
2002/2003	One "ArchWay" Archivist / Data Entry Person	$50,000	One
	Administration Costs	$10,000	Five
	Training	$20,000	Four
	Scanning Project (phase 2)	$10,000	Three
	Technical Support	$10,000	Two
Total		**$100,000**	

Despite the possibility of federal CAIN funding, there remained the need for the

CNSA to find on-going sustainable monies as its part of the ArchWay project. When the

Executive took over the development of the database in June 1999, the main challenge

was again to find funding for the ArchWay Archivist's position. The two-year

redirection timeline of the CCA Control of Holdings grant expired in March 2000. The

Executive knew that the membership could not be asked to redirect the Control of

Holdings grants for another two years to fund the database. That grants process needed

to be returned to the members for their own projects. The minutes of September 17,

1999, show that one proposed option was to approve only Control of Holdings grants that

included fonds description and, therefore, supported ArchWay. Certainly there were

concerns that this would not be favourable to the membership. ArchWay needed to

maintain a set of standards that could only be achieved if one person was doing the

descriptions. This supported the Executive's position to find other funding to keep the

ArchWay Archivist on the project. So, the Executive decided on January 14, 2000, to

apply for a Special Project grant from the CCA to fund the ArchWay Archivist's position

until the approval of CAIN funding at the federal level. At the meeting on May 4, 2000,

the CCA informed the Executive that its application was successful.[13]

From the end of the ArchWay Committee in June 1999 to the infusion of CAIN

funding in June 2001, the database project progressed slowly. Still under the direction of

the Executive, the ArchWay Archivist continues to work with descriptions and visit

archival institutions to help with training. Some difficulties and challenges remain, such

as participating institutions not preparing for visits by having located the fonds, with its

supporting documentation, and having examined the contents (Hallett 2000). As of May

2001, 29 institutions had contributed 691 descriptions (Council of Nova Scotia Archives

2001).

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[13] As reported in Table 3 – 1, the amount of this Special project grant was $38,354.00; the CNSA
contributed another $15,352.00.

ARCHWAY NOVA SCOTIA'S ARCHIVAL DATABASE – WALKTHROUGH

Below is a walkthrough of ArchWay as it looked in May 2001. Further discussion of the database will use this display format as an example. A sample search is included in the walkthrough; however, this search will not be used in any further discussion of the database.

The entrance to the database (Figure 3 –1) is a web page containing ArchWay's logo, which is the main link to the database. Samples of records from the virtual exhibit, meant to interest potential users of the database, are included on this page. A navigation banner on the left contains links to ArchWay's support pages and other related pages such as the virtual exhibit and *RAD* assistance.

Figure 3 – 1 Entry page to the ArchWay database
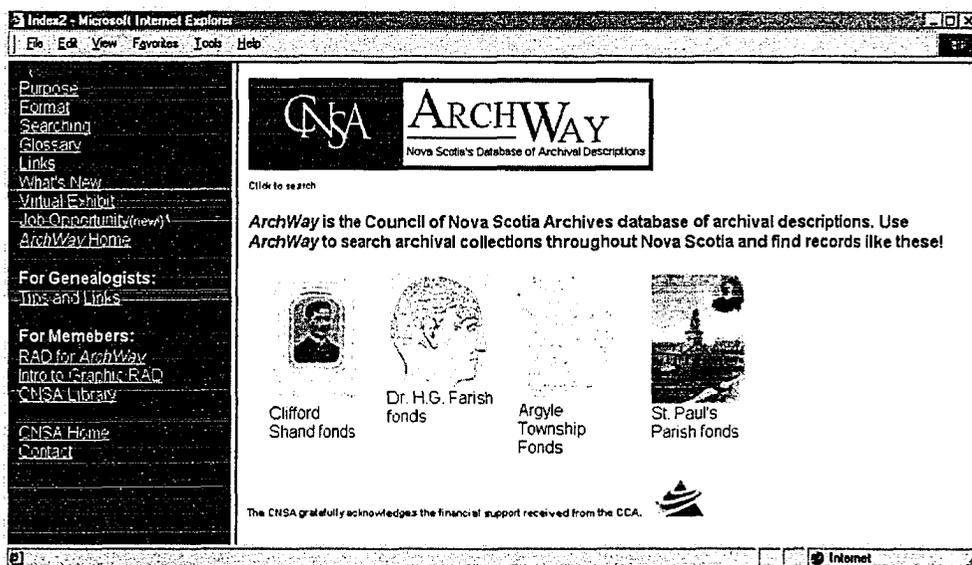
There are a number of support pages that are intended to help the user understand

the database and the methods of searching. For this walkthrough, only the support pages

entitled Purpose, Format, Searching Tips For Genealogists, and Searching will be

included. Other related pages in the navigation banner are not necessary to this

walkthrough as they are not important for the user to understand the database.

The Purpose page (Figure 3 – 2) explains what ArchWay is and what the database

contains. Included is a cautionary note to indicate that searching is currently limited

because the database has only 651 fonds available.

Figure 3 – 2 Purpose page
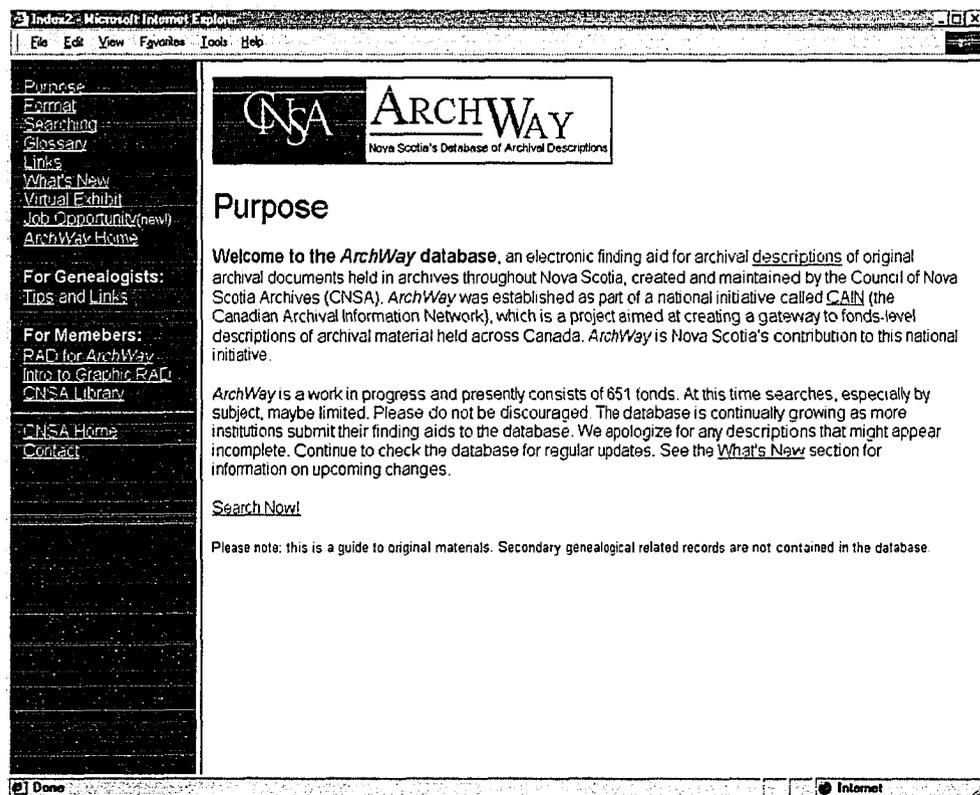
The format page (Figure 3 – 3) explains how a multi-level description works within the

context of *RAD*. A chart is included to assist the explanation and provide a more easily

understandable visual explanation of a multi-level description.

Figure 3 – 3 Format page
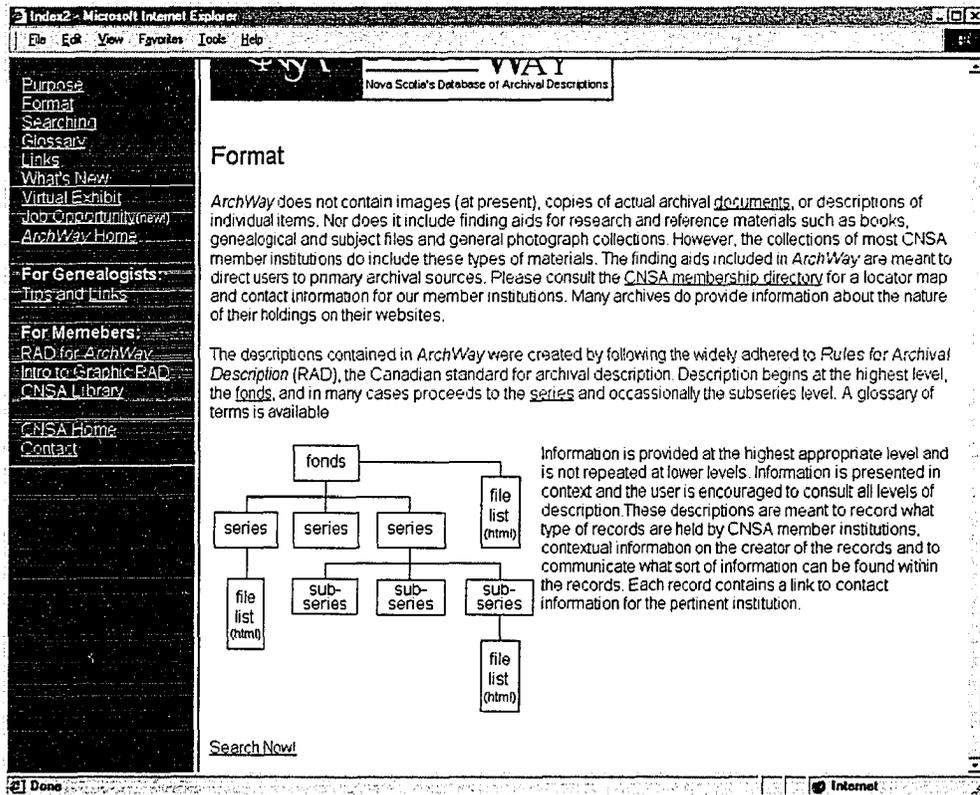
ArchWay's support pages include two pages that discuss searching. The first (Figure 3 –

4) is aimed specifically at genealogical researchers. This page again explains the purpose

of the database and the types of records that are included on the database. The

information is tailored to provide examples of the types of archival documents that would

be of interest to genealogists such as those documents of individuals, families, or

churches.

Figure 3 – 4 Searching Tips for Genealogical Researchers page
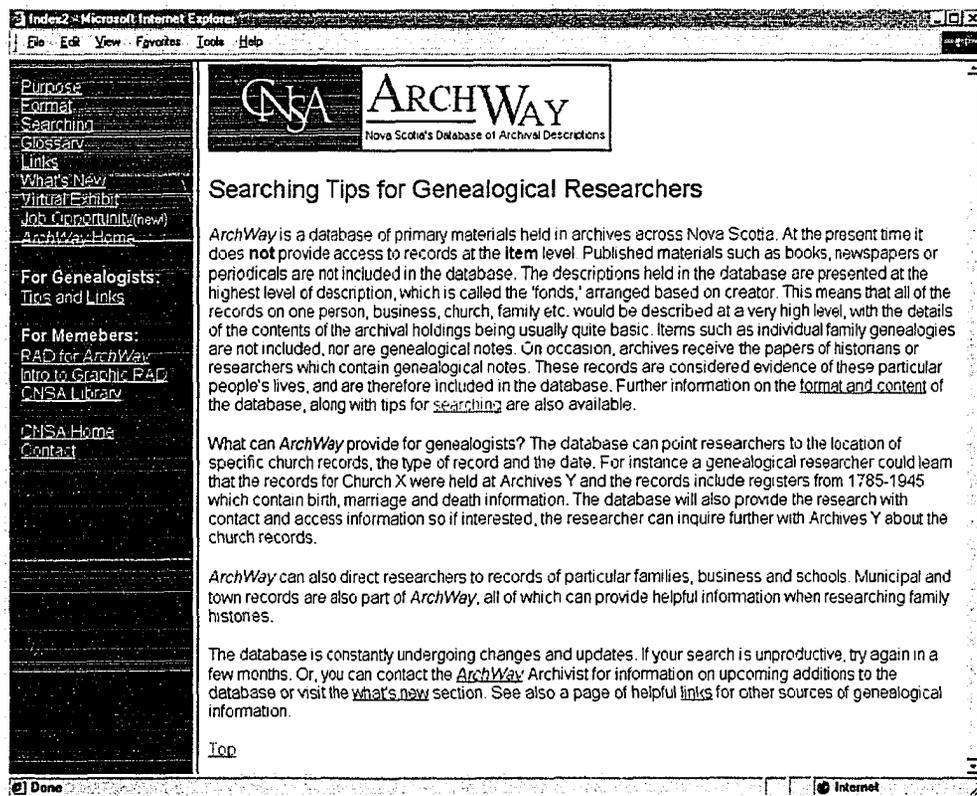
The second that discusses searching (Figure 3 – 5) is aimed at all users of the database –

not only genealogists. This page explains in detail several key aspects of the database:

the search fields, the use of Boolean for searching, how the database displays records in a

multi-level format, and how to contact the archival institution that holds the documents.

Figure 3 – 5 Searching page
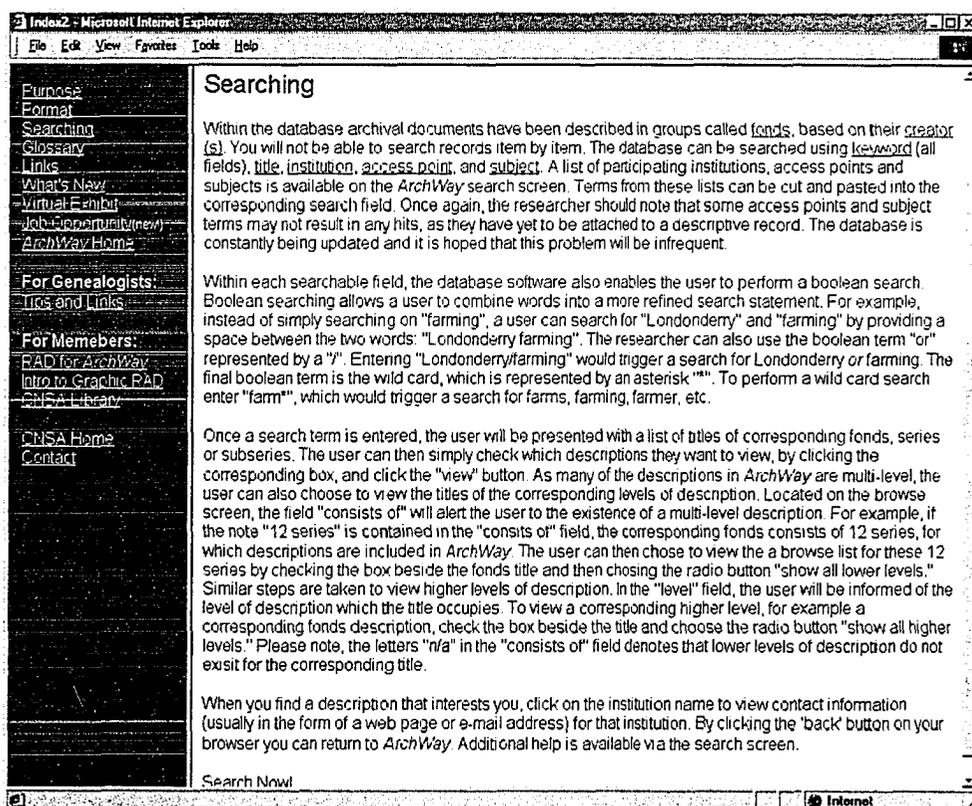
Each of these support pages assists the user to understand the database and the methods

of searching. All of the pages are useful to read through before entering ArchWay.

However, help is available to the user after the database is entered.

When the databases' search screen is loaded, a sized help window loads as well

and overlays the screen (Figure 3 – 6). This help window remains present throughout the

database session. Its intent is to provide instructions on how to search, an index of the

institutions included on the database, an index of the access points, an index of the

subjects used, and an overview of the record structure. A link to the user questionnaire is

also included.

Figure 3 – 6 Help window
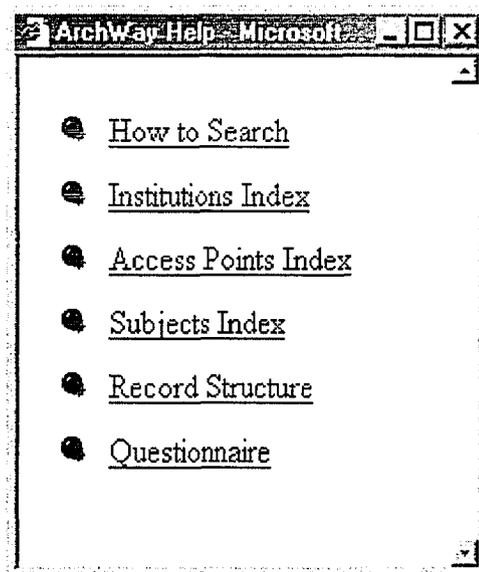
The 'How to Search' screen (Figure 3 – 7) gives limited instructions concerning Boolean

searching and explains the fields on the search screen.

Figure 3 – 7 How to Search screen

How to perform a search

This database is powered by Eloquent Systems' GENCAT NetServer. This software enables the user to search the database; browse results; and view results. *Arch Way* researchers have five search fields to utilize and the software enables the user to perform a boolean search. Boolean searching allows a user to combine words into a more refined search statement.

For example, instead of simply searching on *fishing* a user can search for *fishing* and *Yarmouth* by providing a space between the two words:
fishing Yarmouth
The researcher can also use the boolean term or represented by a "/", which would trigger a search for fishing or Yarmouth
fishing/Yarmouth
There is one last boolean term which is the wild card represent by an asterisk*. This would trigger a search for fishing, fisher, fish, etc. and Yarmouth
fish* Yarmouth

The Search Fields:

Keyword:
Searches all fields in the entire database.

Institution:
Searches by institution name. For a list of current participating institutions click here

Title:
Searches only titles of fonds, sous fonds, series and sub-series.

Access point(s):
Searches provenance, author and non-subject access points. For a list of access points click here.

Subject(s):
Searches both name as a subject (person, place or corporate body) and topical headings. For a list of subject headings click here.

The search screen (Figure 3 – 8), allows the user to search the database by keyword,

institution, title, access points, and subjects. These are likely the most popular ways to

search a database. Keyword searches all of the fields in the databases' records.

Institution, Title, Access points, and Subjects only search terms in those specific fields.

The user needs to know the specific term. For this reason, indexes are available for the

name of institutions, the access points, and the subjects.

Figure 3 – 8 Search screen

The indexes linked to this screen are the same as those linked to the Help window (Figure 3 – 6). In order to see the indexes available, the user selects an appropriate index and another sized window appears, giving the terms. Only the Institutions Index window (Figure 3 – 9) is provided here as an example.

Figure 3 – 9 Institutions Index window
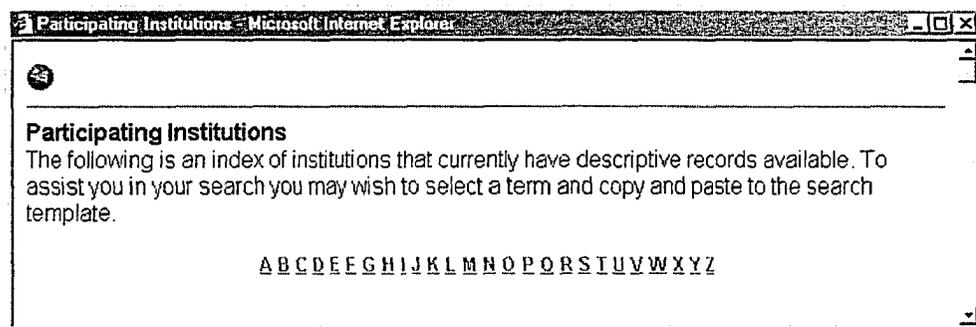
The terms in the index are not linked to the main database. So, the user must highlight, copy, and paste the information or remember the term and type the information in the appropriate search field. Once the user puts the information into the search field, the [OK] button must be selected.

After the database has searched for the information supplied in one of the search fields, a browse list screen (Figure 3 – 10) displays. The database's software is only capable of displaying 10 items at a time. On ArchWay, the user must select [Next] to see the next 10 items. The browse list screen consists of a table of results divided by Institution, Level, Title, and Consists of columns. The Institution column gives the name of the archival institution that holds the documents. The Level column gives the level of the multi-level description being described – fonds, series, etc. The Title column gives

the title of the corresponding description at that level. The Consists of column gives the

number and level of the subordinate descriptions that correspond with the title. Each

database record has a check box that the user must select to view that record.

For the purpose of this walkthrough, the user enters the 'Cape Breton' in the

Keyword search field on the search screen. The browse list screen below indicates that

34 items are found on the database. The user then chose the [Next] button to move the

results 11-20 in the list.

Figure 3 – 10 Browse list screen
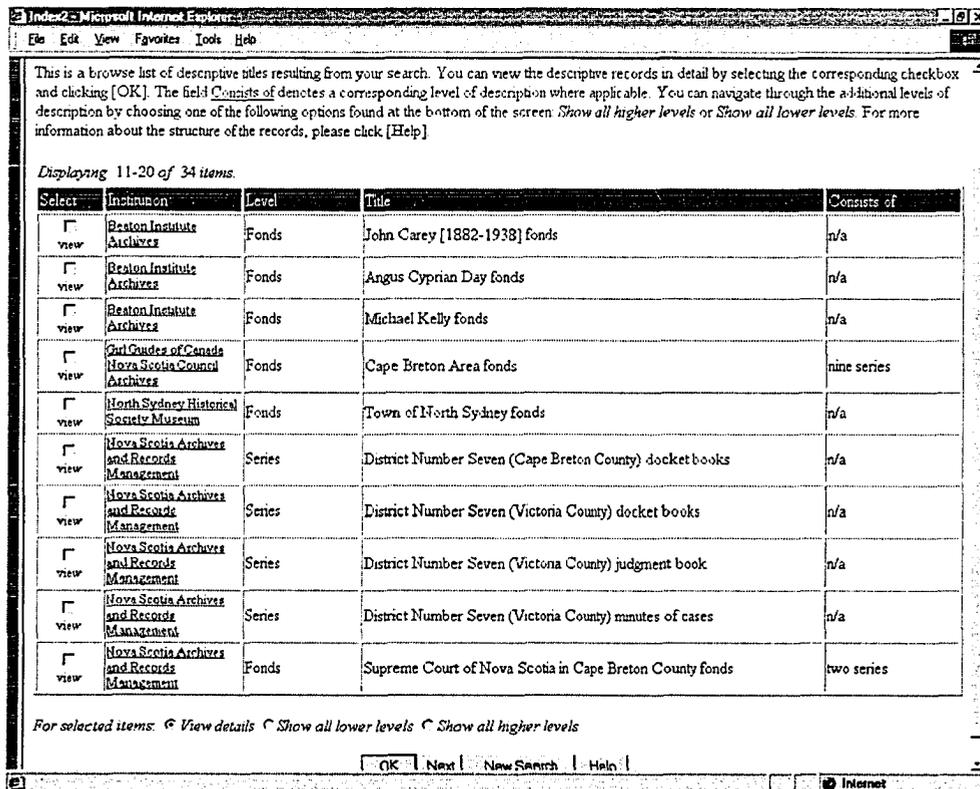
Note: the navigation banner on this screen is minimized to allow the entire browse list screen to be viewed.

To view a database record from the browse list, the user selects one check box. Then the user must choose either View details, Show all lower levels, or Show all higher levels. By selecting View details, the database will display the description for the corresponding title. By selecting Show all higher levels, the database will display another browse list that contains only fonds level descriptions for the corresponding title. By selecting Show all lower levels, the database will display another browse list that contains only the series level descriptions for the corresponding title. After making that choice, the user then selects [OK] and the database brings up the appropriate level's description.

For the purpose of this walkthrough, the user selects the check box for the title 'Supreme Court of Nova Scotia in Cape Breton County fonds' and chose the Show all lower levels option. A second browse list screen displays the titles of the two series within the fonds. The user then selects the check box for the series title 'Case files' and chose the View details option. As a result, the description of the selected series is displayed in full.

The description screen (Figure 3 – 11) is the user's reason for searching the database – to obtain a description of the archival records. This screen gives a *RAD* description of the documents. The name of the archival institution that holds those documents acts as a link to their contact information. In this specific example, the documents also have a link to an online finding aid created by the archival institution. This screen also gives the option for the user to start a new search, leading back to the search screen, or to close the database. A link to an online questionnaire is also provided.

Figure 3 – 11 Description screen
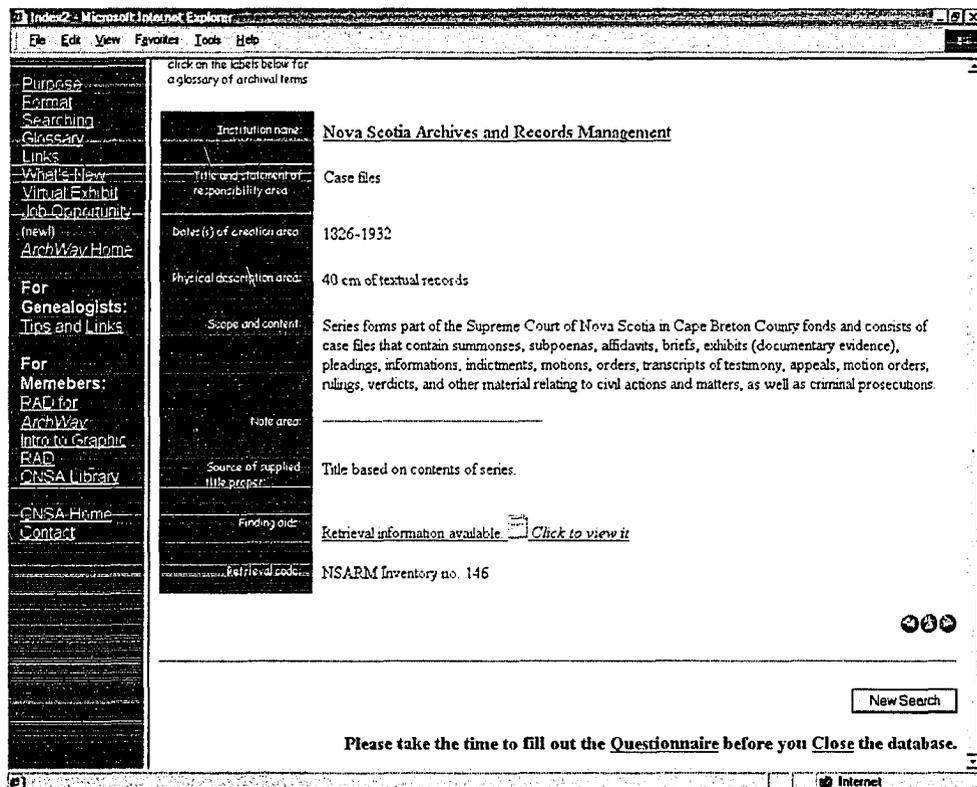
This walkthrough of the ArchWay database has demonstrated all of the pages and screens that a user would see. A user has the option to read through all of the support pages before entering the database. Even though the user can skip the support pages, those pages are crucial to understanding the structure of the database and the method of searching.

CHAPTER FOUR

CASE STUDY – RESULTS AND ANALYSIS

As seen in the previous chapter, ArchWay developed from an idea to a working database in six years. The process of developing a database has been slow and difficult for the CNSA, mainly due to a lack of planning and sustainable funding for the project. In this case study, ArchWay will be examined closely to determine if the project has successfully achieved the goals outlined by the CNSA.

After the launch of ArchWay in May 2000, the database had developed far enough that both the process of building the database and the product itself could be evaluated. The method used for this evaluation is criteria developed from the *ArchWay Project Proposal* and the literature review. For the evaluation of ArchWay as a process, the criteria based on the *ArchWay Project Proposal* are discussed, applied to the process, and then these results are analyzed. For the evaluation of the ArchWay database, the criteria identified in the literature review are applied to the database and the results are analyzed. Using these evaluations, this chapter explores ArchWay and pinpoints the failures and successes of the project.

EVALUATION OF ARCHWAY AS A PROCESS

Evaluating the process of building ArchWay is difficult. Unlike the evaluation of ArchWay as a product, which is done later in this chapter, evaluating the process is less tangible. Certainly, it is important to note that the process of building a large and complex database is not scientific. When the CNSA began this project in 1995, the

Steering Committee had no other examples to follow, save British Columbia.[1] In a sense,

ArchWay was breaking new ground. But, as the literature review shows, there were

examples of the database building process that could have been followed as many of

them were published either prior to or simultaneous to the building of ArchWay.

Therefore, the literature review and background do provide some clues that help to assess

the process. The *ArchWay Project Proposal* (Council of Nova Scotia Archives 1998)

will be used to evaluate the objectives of ArchWay. But first, suggestions from Gilliland

(1988), Kesner (1984), Kitching (1991), and Nielsen Consulting (1997) will be used to

evaluate the planning process.

Most authors in the literature review agreed that planning is an important aspect

of any database project. Gilliland said, in her article called "The Development of

Automated Archival Systems" (1988, 522-523), that planning is crucial for the success of

a database. She drew upon the writing of Kesner to describe a planning team. Kesner

(1984, 53-55) indicated that a planning team consisting of archival staff, database

technicians, and users should be struck to plan and implement a database project. One of

the archival staff or database technicians also need to act as the project leader throughout

the entire process and have authority for decision-making. Gilliland (524) also used the

work of Jerome Kanter to describe the role of a steering committee. Kanter claims that a

steering committee usually oversees planning, sets priorities for implementation,

produces an overall plan written to cover the whole process, finds the necessary funding,

and finds appropriate software for the database. Kitching (1991, 17-19) suggests that

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[1] The British Columbia project is discussed in the literature review in Chapter 2.

users (i.e., researchers, archivists, and creators) need to be included in the planning and

design of the database.

In the case of ArchWay, planning was done in a more piecemeal fashion – not as

part of an overall scheme. The background of ArchWay demonstrates this lack of steady

and thoughtful planning. A planning team, such as the one described above by Kesner,

was not created. A steering committee, such as the one described here by Gilliland and

Kanter, was set up but without any terms of reference or the authority to complete the

project. The Committee members were not selected and instead consisted of members

interested in building a database. For this reason, the Committee came together with little

direction of how to build a database, how to find money for the project, what power it

had to direct the project, or when the members' commitment would end. Minutes of the

ArchWay Committee show that it was held together by a core group of five or six

dedicated members; other committee members stayed for short periods of time and

moved on. There were also no representatives from the various regions of Nova Scotia or

from all of the member-types.[2] The Committee did not invite representatives from the

research community to assist in the process and there is no evidence in the ArchWay

Committee minutes that a survey was done of user's needs or expectations. Members of

the ArchWay Committee were volunteers; some members were also part of the CNSA's

volunteer Executive.[3]

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[2] The CNSA's membership consists of community archives and museums, university and religious archives, heritage associations, and corporations. Only museums – some with archives, university archives, and the provincial archives were represented.

[3] The workload on the CNSA's volunteers is heavy especially since the same people tend to volunteer for various projects year after year. This causes extreme burnout and valuable volunteers are lost along with

Indeed, the management of the project did not evolve with the project itself. In the feasibility study, Nielsen Consulting (1997, 16-17) strongly suggested that volunteers should not be used to supervise the project. The report estimated that up to three people should be employed to work on ArchWay. However, because the CNSA is a volunteer organization and because funding was inadequate, only one paid person was ever hired to work on the project. The paid staff were, and still are, the most consistent representatives involved in the CNSA. As is apparent from the ArchWay project, this volunteer direction has hindered the decision making process and caused difficulty for the staff. At first, the ArchWay Archivist needed strong direction from the ArchWay Committee. But, the Committee deferred many decisions to the Executive, seeming reluctant to direct the ArchWay Archivist and address her working needs. The minutes show that by May and June of 1998, problems began to arise between the Committee and the ArchWay Archivist. The ArchWay Archivist expressed her view that the Committee was not making the necessary decisions to allow her to continue building the database.

The ArchWay policy and guidelines are one example. For this document, she needed timely decisions that would be supported by the Committee. The minutes indicate that the ArchWay Archivist wrote a draft policy and guidelines document in January 1998. This document needed discussion and support by the Committee so that she could continue her work on the database. At the meeting on June 9, she had identified another important issue. The Committee needed to define the authority and responsibilities of the ArchWay Archivist. By her e-mail of June 15, 1998, the ArchWay

their collective memory. From ArchWay's inception to its launch, four CNSA presidents oversaw the operation; most left the ArchWay Committee after their presidential term ended.

Archivist expressed that the Committee seemed reluctant to address her concerns. She

was not comfortable making database decisions on her own and needed the policy and

guidelines passed and needed to know the scope of her authority. Specifically, the

ArchWay Committee needed policies to define the requirements for ArchWay and to

define the process to change descriptions, as well as guidelines to determine necessary

changes in the database structure and begin a data dictionary. An approved policy would

have alleviated this situation. Acceptance did not come until November 1998, eleven

months after it was written. The policy supported the ArchWay Archivist and defined

her role, allowing her to continue her work with stronger direction.

As this example shows, the Committee took a long time to make decisions; in this

case, eleven months. Although the ArchWay Archivist did not sit idle during these times,

she did have to return to the database frequently to make changes. These delays may

have been avoided if the Committee had developed terms of reference outlining its

authority to make decisions and developed policies for ArchWay.

When the Executive met on June 11, 1999 to discuss the future of the ArchWay

Committee, the ArchWay Archivist indicated that she needed further direction. The

committee-directed method was not effective for her needs. The database project was

important to the Executive and the minutes show that the Executive decided to disband

the ArchWay Committee and take on project direction itself. The Education, Outreach,

and Networking Archivist would direct the ArchWay Archivist on a day-to-day basis; the

Executive would confirm the policies and procedures to be developed and review

ArchWay's progress at its various meetings. Priorities for the ArchWay Archivist were

to document ArchWay procedures, create tools for writing descriptions, and prepare to launch ArchWay.

The intervention of the Executive was too late to keep on the timeline specified by Nielsen Consulting's *Archival Database Project: Final Report* (1997). That report advised implementation of the database in three phases. First, staff would start with the members that had descriptions ready for inclusion on the database. This would build the database while allowing slower members to prepare their descriptions. The first phase would involve select archives across the province, beginning with the holdings at PANS. During this time, any potential logistical problems could be identified. Phase 1 would begin in 1998 and take 14 months to complete. Then, other archival institutions in the province would become involved. Phase 2 would take between two and three years to complete. Finally, those institutions needing assistance would come online last. This phase would carry on as a part time project, focusing on archival institutions that were having problems getting their descriptions ready for the database. Phase 3 would have no time line for completion

The timelines in the *Archival Database Project: Final Report* provided the basis for specific timelines and tasks given in the *ArchWay Project Proposal* (Council of Nova Scotia Archives 1998). That proposal specified Phase 1 as the Pilot. Taking place between January and April 1998, the Pilot intended to:

a) verify and plan the time and training requirements in a variety of institutional settings;

b) collect and create descriptions of archival material in six institutions in Nova Scotia representing a varied geographic and institutional type sample;

c) enter descriptions into the database;

d) develop an effective and user-friendly interface (both for inputting data and searching);

e) and, make recommendations for continuation of project.

Phase 2 was called Initial Implementation. Taking place between May 1998 and March 2000, this phase intended to:

a) gather remaining descriptions from approximately 74 institutions;

b) check description for *RAD* compliancy; enter descriptions of all member archives on-line;

c) bring ArchWay on-line with initiatives in other provinces; train members in use of ArchWay;

d) build a current subject headings file for Nova Scotia;

e) and, publicize ArchWay.

Phase 3 was called Implementation and Integration. Taking place between April 2000 and March 2003, this phase intended to:

a) edit and update data and integrate the database within the national database initiative's framework;

b) provide ongoing training for new members and promoting use of ArchWay;

c) collect and enter description from new members;

d) and, bring ArchWay on-line with other heritage/cultural databases in Nova Scotia.

The timelines are not at issue here.[4] Indeed, the background of ArchWay shows

that the project did start in January 1998, an online prototype was available in April 1999,

and the database launched in May 2000. The real issue for discussion is that the specific

tasks assigned to each phase were not timely within each phase. Clearly, the difficulties

between the ArchWay Committee and the ArchWay Archivist had caused delays in

progress and productivity. The ArchWay Archivist had been working on the project for

18 months before the Committee was disbanded. But this was not the only thing that

delayed work on the project. Because the project had only one staff person, the ArchWay

Archivist was often given competing priorities from the Executive. For example, in 2000

she had to refine the database for launch and she created a virtual exhibit to compliment

that launch; both of these tasks removed her from the task of gathering and inputting

descriptions.

Still, some of the goals outlined in the *ArchWay Project Proposal*, and discussed

in Table 3 – 2, were completed on time. In Phase 1, descriptions of archival material

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[4] For comparison, Table 4 – 1 provides the timelines for the other provincial and territorial databases. The Start Date is the date of the Feasibility Study and not the date for initial discussions about creating a database. Many provinces began discussing a database project, but were not able to do a Feasibility Study until CCA money became available for this purpose. As this table shows, most provinces had an online database within two or three years of their Feasibility Study.

Table 4 – 1, Provincial and Territorial Database Timelines
(Compiled from Purver 2000, Gourlie 2001, Buchan 2001, Moir 2001, Hutchinson 2001, Redekopp 2001, Fantin 2000, Boudreau 2001, Charlebois 2001, MacMiken-Wilson 2001, and Ferguson 2000)

	Start date	Online date		Start date	Online date
BC	1990	1993	ON	1998	2000
AB	1994	1997	PQ	1999	2000
YK	1998	2000	NB	1998	Not yet
NWT	1998	2000	PE	1998	Not yet
SK	1995	1997	NS	1997	2000
MB	1997	1998	NF	1996	Not yet

were collected and created in six sample institutions, those descriptions were entered into

ArchWay, and interfaces (both for inputting data and searching) were created. The

ArchWay Archivist also wrote an extensive report for the Committee making

recommendations for continuation of the project. But, progress was slowed after this

phase. In Phase 2, descriptions were gathered and entered but not from all of the ninety-

two institutions as planned. Members were not trained to use or enter descriptions on

ArchWay. A current subject headings file for Nova Scotia was partially built. Because

this phase was not completed, Phase 3 was not able to progress steadily. ArchWay's data

was integrated into a national database, descriptions were collected, and the database

continues to be promoted. But, training for members has slowed and ArchWay has not

been brought online with other heritage and cultural databases in Nova Scotia, such as the

Nova Scotia Museums' database.

The *ArchWay Project Proposal* also provides a framework for the evaluation of

the specific database objectives.[5]   Fortunately, the proposal elaborates on those

objectives, creating performance measures which were set out by the CNSA. These

performance measures form the rest of the criteria on which this evaluation is based.[6]

The performance measures (10) are:

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[5] The proposal's objectives are cited in the background in Chapter 3.

[6] The performance measures were taken from the *Archival Database Project : Final Report* done by Nielsen Consulting in 1997 and elaborated upon by select members of the ArchWay Committee for the *ArchWay Project Proposal*. They do not appear to be in any order of importance. For continuity, the author has maintained the order in this evaluation. For simplicity, the author has assigned a label to each performance measure (given in italics on the right of the point); these labels will be used throughout this evaluation.

Curiously, although perhaps not intentional, the *ArchWay Project Proposal*'s performance measures do not include all of the proposal's objectives (2-3). Missing are two key objectives: 'to forge business links' and 'to establish a system of periodic review of training and descriptive practices.' For this

- Increased accessibility of archival material – *Service*

- Increased communication among CNSA member institutions – *Cooperation*

- Increase public awareness of the role and value of archives – *Profile*

- Increased archival professional standards – *Training*

- Increased standardization across cultural institutions – *Standardization*

- Focus for funding initiatives – *Funding*

Service is the first performance measure provided in the *ArchWay Project Proposal*. The overall service objective is to increase the accessibility of archival material held in Nova Scotian repositories. Certainly, better access to holdings information is a driving force behind the creation of Canadian, online archival databases. A finding aid of this type assists researchers to locate their topic in the holdings of all participating archival institutions.

One strength of a centralized database is that a single search covers many records. For this reason, descriptions of holdings in archival institutions can be accessed and searched from any distance through the Internet. Prior to online databases, researchers needed to physically visit, write, fax, or phone repositories inquiring about the holdings. Online, centralized databases decrease the amount of time and money researchers need to do preliminary research. Inquiries for finding aid information can be done online either by searching a centralized database or an archival institutions' database.

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evaluation, these two objectives are included in the performance measures. Forging business links is included under the label Funding; a system of periodic review of training and descriptive practices is included under the label Training.

ArchWay, being Internet accessible and free of charge, is meant to meet that need.

Researchers are logging on to the database and as Table 4 – 2 shows, visits to the

database have come from all over the world.

Table 4 – 2 Breakdown of ArchWay Visits Based on Domain Origin
(Compiled from internet.com Corp. 2000.)

Total hits =	14, 475	in the year 2000
	48%	domain origin .ca, indicating Canadian origin
	20%	domain origin .net, indicating MS Network origin
	18%	domain origin .com, indicating Commercial origin
	8%	unknown domain
	6%	domains in 32 other countries, mostly Australia, the United Kingdom, and the United States.

ArchWay is intended to include all archival holdings in Nova Scotia, making a

single search for many repositories possible. However, out of ninety-two institutions and

an estimated 10,000 fonds, only thirty institutions participate with 691 fonds.[7] Table 4 –

3 gives a breakdown of the types of institutions that currently participate on ArchWay.

Table 4 – 3 Breakdown of Participants on ArchWay by Type of Archives
(Compiled from ArchWay's Institution Index)

Archives Type	Number of Participants on ArchWay	Number of Institutions in CNSA
University	5	12
Religious	3	10
Government	4	14
Corporate	1	4
Community	17	52
Total	30	92

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[7] The number of 691 fonds is taken from Figure 3 – 8, May 11, 2001. This date is important as it is just prior to the ArchWay user survey, administered between May 14 and 19, 2001; the results of which are reported later in this chapter.

In addition to the small number of participants, not all of the holdings from those thirty institutions are included on the database. This situation greatly limits ArchWay's performance of doing searches across the holdings of all institutions in the province.

A database also encourages – if not enforces – descriptions to be of a standard format, such as those prescribed by *RAD*, allowing for enhanced control over the intellectual arrangement and description of archival records. One effect of a standard format is that the information in the database is more easily recognizable to researchers, regardless of its origin. ArchWay's database fields have been set up according to *RAD*, the nationally accepted description standard, making all of the database's records display similarly. For this reason, researchers who access ArchWay can recognize the online descriptions, provided that they have gained some understanding of *RAD*.[8] But standard fields are only a part of standards. The information contained in the fields must also be of a standard format. Kitching (1991, 48-50) suggests that this is much more difficult to control and requires up-to-date policies and procedures. He warned that without planning, a host might not able to standardize descriptions or maintain the database. He suggests (21-23) that policies be created to regulate maintenance and track changes. Standardization of the descriptions and database maintenance has been a challenge for the ArchWay Archivist. She had created policies for the database, but the ArchWay Committee and the Executive were slow to approve those policies causing delays and the need to revisit the database to make corrections. As explained in the background of ArchWay, only one person has responsibility for editing and inputting descriptions – the

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[8] For researchers unfamiliar to *RAD*, ArchWay provides some explanation as seen in Figure 3 – 3.

ArchWay Archivist. As long as this situation exists, the database's description

information will be standard. Should the ArchWay Archivist leave her position, or the

CNSA receive additional database staff that edit and input descriptions, this standard may

be more difficult to maintain without updated policies and procedures to regulate

inputting.

In terms of the service performance measure, ArchWay is increasing the

accessibility of archival material. Although ArchWay's performance for this measure is

strong, there are two drawbacks: currently only a small number of archival holdings are

represented on the database and potentially standard descriptions may be difficult to

control in the future.

Cooperation was the second performance measure provided in the *ArchWay*

Project Proposal. The overall cooperation objective was to increase communication

among CNSA member institutions. [9] Certainly, this is what Robert Morgan had in mind

when he wrote his *Discussion Paper* (1982) that encouraged the founding of the CNSA.

To encourage communication, the CNSA set up a web site with a membership page

containing full repository contact information. This page is also linked to the database so

that researchers can also find repository contact information from the description page.

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[9] The BCAUL project encouraged cooperation among its members as well. In an early article about that project, archivists Chris Hives and Blair Taylor (1993, 71) wrote:

> Increasingly, preserving archival documentation requires a more cooperative, inter-institutional approach. This has been made necessary by a number of factors, including shrinking cultural resources, the proliferation of recorded information and the general need to adopt more integrated and comprehensive acquisition policies. Consequently, the informal, ad hoc and idiosyncratic practices of the past should be abandoned in favour of more formalized systems of inter-institutional networks. As an initial step towards network development, archivists must move towards shared standards and a common language in order to establish a baseline for cooperative activities.

But a number of other opportunities and benefits result from cooperation among archival institutions. Computer networks give archivists the power to share knowledge and information, especially with respect to intellectual access to records. Information both in and about inventories, authority controls, and finding aid production can be done by more cooperative means. One benefit of cooperation is the possibility of small networks of archival workers being set up to help with preparing *RAD* compliant descriptions. Under this scenario, archival institutions with similar collections mandates would assist each other with description. However, this has not yet been a result of the ArchWay project, nor has the CNSA encouraged colleagues to set up this type of human network. Another benefit is that related records in other repositories can be more easily found when institutions participate in a centralized database. Cooperation between archival institutions can lend itself to supporting or even repatriating collections held at different archival institutions. However, ArchWay is still too small to easily find related collections in other repositories.

The CNSA, under the direction of the Executive, did pinpoint the need for a cooperative acquisitions strategy for the province.[10] This strategy has developed as a direct result of the ArchWay project. As the ArchWay Archivist visited members and collected descriptions, she began to see overlap in some of the holdings. In February 2000, the CNSA's Executive decided that a provincial acquisition strategy would compliment the ArchWay project. A small committee was formed to draft a *Provincial*

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[10] The need for this type of cooperation was impressed on all of the archival councils from the national level in the CCA's *Building a National Acquisition Strategy* (1995).

Acquisition Strategy[11] to act as a blueprint and 'encourage our institutional members to develop more localized strategies and agreements for acquisition.' A *Provincial Acquisition Strategy* would reinforce the professional and ethical standards of the institutional members when material is acquired (Crowell 2000). The revised strategy was passed by the membership at the 2001 AGM on May 24, 2001.

ArchWay has induced some cooperation among the CNSA members, but it did not meet all of the objectives for this performance measure. A provincial acquisitions strategy was not initially welcomed, but it was accepted by the membership after considerable discussion. The database does allow members easy access to their colleagues' contact information (i.e., address, telephone number, and web site). But, finding related records in other repositories remains difficult because the database is still very small. The database alone does not encourage colleagues to assist each other with descriptions; the ArchWay Archivist must inspire that aspect of the project.

Profile was the third performance measure provided by the *ArchWay Project Proposal*. The overall profile objective was to increase public awareness about the role and value of archives. Having an Internet presence can be beneficial to both the institution and to the researcher.[12] An archival web site can act as an electronic brochure telling the public what an archival institution is, what it does, and what it collects. The

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[11] The short draft strategy was presented to the membership at the annual general meeting on May 25, 2000. Members were very concerned about this document. At that meeting, the membership decided that more time was needed to discuss and plan this strategy. The membership moved to give the Executive the authority to continue revising the document and exploring the consequences.

[12] After all, the popular interest in the Internet is growing. Statistics Canada suggests that all ages are accessing the Internet. Dickinson and Sciadas' (1999, 3.3) study found that Canadian household usage of the Internet grew from 9,447,000 in 1996 to 11,580,000 in 1997. Dickinson and Sciadas' study was based on statistics collected earlier than 1998.

Internet is one means of reaching a wider audience to assist researchers while promoting

the overall goals of archival institutions.[13] theCounter.com has been compiling statistics

for ArchWay since 1999. These statistics show that in 2000, ArchWay received 14,475

visits with an average of twenty-two visits per day, mostly directed from the CNSA web

site (INT Media Group, Incorporated 2000).

But these statistics alone are misleading. They do not reflect why the researcher

logged on to the database, how the researcher used the database, or if the researcher

found anything that they wanted. However, the statistics do show that users are going to

the CNSA web site and logging onto ArchWay. Perhaps this situation does contribute to

Nova Scotia's archival institutions having a higher profile, but success on this point can

be measured in other ways.

The *ArchWay Project Proposal* pinpointed four other measures for profile. The

first two were an increase in the use of Nova Scotia's archives and an increase in

donations of valuable records to archives. On each of these points, the CNSA has not

collected any information or asked participating repositories to collect any information so

as to determine success. Perhaps it is too soon to know if ArchWay has caused an

increase in the use of archives and an increase in donations of valuable records. Still at

this time, no data exists on these points making evaluation impossible. The third measure

was the potential for broadening the base support for ArchWay. At this time, there is no

evidence that the CNSA's Executive has been able to use the database to attract more

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[13]An example of a high profile archival web site is the National Archives of Canada. The web site had
43.6 million hits in 1999-2000. Of those hits, 1.5 million people used the online research tools (National
Archives of Canada 2000, 10).

funding from either the provincial government or the private sector. Certainly, the continued challenges to sustain funding show that the project has not attracted potential stakeholders. The low numbers of participants may also indicate an unconscious shift in the membership's support of the project, and perhaps decreased interest. The fourth measure was the availability of archival descriptions for educational uses. Again, the CNSA has not collected any information on this measure and so no data exists.

ArchWay may still be too young to judge if it has met the objective to increase the profile of archival institutions. Although the CNSA's newsletter does provide regular updates concerning the database, it is circulated only to a select group of people – not the general public. The CNSA does not actively pursue public awareness. Merely being on the Internet does not necessarily result in an increased profile and the database does not seem to be attractive to potential stakeholders. The CNSA has also not collected or assessed data concerning this performance measure.

Training is the fourth performance measure provided by the *ArchWay Project Proposal.* The overall training objective was to increase archival professional standards. Training has been a priority for the CNSA over the past decade. In the early 1990s, the CNSA decided to emphasize training and professional development by hiring and maintaining an Education and Outreach Archivist's position through the CCA's Professional Development and Training Program[14] – a position that was strongly

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[14] As a means of helping provincial archival associations meet their members' training needs, the CCA offers a Professional Development and Training Program. 'The objective of this program is to assist in professional development and training of archivists and those working in archives.' This program provides financial support to the associations through a grant system. Because the program gives priority to projects that benefit the greatest number of persons working in archives, the grants are awarded at the provincial

supported in the report by Nielsen Consulting in the *Archival Database Project : Final Report* (1997). The broad goal of the Education and Outreach Archivist position is to enhance Nova Scotia's archival practice in the province to meet national and international archival standards.

A survey done in January 2001 by the Education and Outreach Archivist, called Education for the New Millennium (Lovelace 2001), shows that the staff in Nova Scotia's archival institutions need and want more training. Of the sixty-two respondents, thirty-two indicated that they had learned archival practice through workshops and self-directed learning. Twenty-six respondents described their archival training as 'on the job'. Only four members have staff with Masters level training in archives.[15] All respondents to the survey seemed interested in receiving more training particularly to increase their in-depth archival knowledge but also for credibility. When commenting on the benefits of more training, participants' responses included 'more formal training with theory included', 'increase my practical knowledge', and 'I have fallen into the role of archivist and would benefit from any training available'.

Continuing training is very important to all members – especially with respect to *RAD* training. In addition to the activities of the Education and Outreach Archivist and to workshops offered periodically, the ArchWay Archivist had been actively visiting

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association level only (Canadian Council of Archives 2000. *Provincial Development and Training Program*).

[15] The situation in Nova Scotia seems to reflect the situation across Canada. Wendy Duff studied the accessibility of *RAD* training in Canada. Although Duff's (1999, 37-39) survey does not look at individual provinces, the survey found that nationally, 55.4% of the staff in archival institutions received *RAD* training through provincial workshops. A further 31.3% of the staff in archival institutions received in-house *RAD* training. But, of the entire group of respondents, 32% said that they wanted more training to fully implement *RAD* with competency.

members and training them in *RAD*. But this changed as the ArchWay project grew. In June 1998, she reported spending a great amount of time entering data on the database and not doing site visits and hands-on training. Members sent descriptions to the ArchWay Archivist and she helped them with editing. Later, when she turned her attention to building a virtual exhibit and preparing the database for its launch in May 2000, the ArchWay Archivist infrequently found time to work closely with the members to create individual entries.

One long term goal of the ArchWay project was to have members doing their own *RAD* descriptions – not the ArchWay Archivist – and submitting them to the database. At the meeting on June 11, 1999, the Executive decided that they wanted to encourage members to create their own descriptions, which would then be edited by a committee. To do so, the ArchWay Archivist needed to develop templates for creating descriptions and participants needed training on how to prepare their own descriptions through visits and workshops. Templates were created and distributed to the membership. However, an editing committee was never established; the ArchWay Archivist still does all of the editing.

The opportunity for training is available through the CNSA and some benefits can be seen from this training. Individual archival repositories are doing their own descriptions as their staff begins to understand *RAD*.[16] However, the situation in Nova Scotia is one where many archival institutions have limited staff, often volunteers, with

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[16] Wendy Duff's national survey of *RAD* usage in 1999 (32-33) indicated that 52.2% of the Nova Scotian respondents use *RAD* for their descriptions; the exact number was not provided. Nationally, 71% of the respondents indicated that they used the rules. Duff discovered that *RAD* is most used on new acquisitions, although some archival institutions are trying to do some retrospective conversion.

multiple responsibilities. This leaves much of the description work to be done by students and contract workers on short-term grants. As a result, the skills acquired by these workers are lost to staff turnover and re-training can be an annual occurrence. Despite these challenges, members are trying to describe records as best as possible.

Another aspect of the training goal was for the CNSA to establish a system of periodic review of training and descriptive practices. This type of review would allow the Education and Outreach Archivist and the ArchWay Archivist to determine how effective training has been. The survey done by the Education and Outreach Archivist in January 2001 was the first attempt to review the effectiveness of the CNSA's training. It is unclear as to how the CNSA will use the results.

The ArchWay project has brought training issues to the attention of the Executive. The most prominent issue has been *RAD* training because without *RAD* there can be no ArchWay. The ArchWay Archivist has provided direct *RAD* training to participating institutions, but once again, some of this expertise is being lost to staff turnover. A periodic review of training and descriptive practices has begun. In terms of ArchWay, increased training has not had a great impact on increasing Nova Scotia's professional standards. The survey done in January 2001 shows that regular staff still lack the skills and confidence necessary to contributing fully to ArchWay.

Standardization is the fifth performance measure provided by the *ArchWay Project Proposal*. The overall standardization objective was to increase standardization across cultural institutions. The creation of credible, reliable, and accessible online research tools benefit researchers and archivists. For these tools to be effective,

archivists need to create standard record descriptions. As explained in the literature review, that nationally accepted archival description standard is *RAD*.

One goal outlined in the *ArchWay Project Proposal* was to strive for better cooperation with information colleagues in museums and libraries. Indeed, Nielsen Consulting (1997, 3) encouraged partnering with museums or libraries to create cooperative databases. He even discussed the ArchWay project with administrators in the Nova Scotia Provincial Library and the Nova Scotia Museum. But these partnerships for an integrated database were not feasible. The Provincial Librarian was invited to the initial brainstorming sessions for the archival database, but the Library had no further involvement with the ArchWay project as the database fields are not compatible. The Nova Scotia Museum did liaise with the CNSA, having a continuous presence on the ArchWay Committee. Some common database fields were explored, but they were not easily compatible. So there was no real partnership with the Museum and database development activities were not coordinated among these institutions.[17] As a result, ArchWay has not encouraged cooperation with museums or libraries and a chance to collaborate with other information managers has not been possible.

Another goal of the standardization performance measure was to lessen duplication of effort in creating and maintaining information. With the implementation of databases to maintain descriptions, the advantages become obvious. Institutions can begin to share their information and even participate in cooperative efforts, such as

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[17] During the time that ArchWay was developed, the Nova Scotia Museum built its own database, called Museum Information Management System (MIMS). The Nova Scotia Museum was also being 'encouraged' to have a database completed by well before 2000 – a time line which the CNSA could not meet.

regional or national networks of databases. The CNSA's vision for ArchWay was that participants would contribute records to the central database and not build individual, repository-based databases resulting in less duplication of effort in creating and maintaining information. However, this does not appear to be happening. Archival institutions in Nova Scotia still maintain their own databases if possible or a paper description. For example, NSARM shares the GENCAT software with ArchWay and their records do appear on ArchWay, but they maintain their own database – BosaNova. This is not the only example in Nova Scotia. The Beaton Institute does contribute to ArchWay but also keeps a database that is separate from ArchWay. Although the maintenance of separate databases does not replace ArchWay, the provincial archival database does not lessen the duplication of descriptions for Nova Scotian archival records.[18]

Standardization of practices across cultural institutions is occurring but not as a direct result of ArchWay. Certainly, the training provided by the Education and Outreach Archivist and the ArchWay Archivist has contributed to standardized descriptions, but the database itself has not encouraged this. The CNSA has not been able to collaborate their database efforts with the museums or libraries since the early planning stages of the database. Individual institutions are maintaining separate databases. As a result, duplication is occurring in areas where overlapping information could be shared. For this performance measure, ArchWay has not met its proposed expectations.

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[18] Duplication of archival descriptions may be inevitable, but the vision of the ArchWay Committee was that it would not be necessary once ArchWay was fully implemented.

Funding was the final performance measure given in the *ArchWay Project Proposal*. The overall funding objective was to bring funds into Nova Scotia's archival community to support a well-defined project with tangible and quantifiable benefits. Certainly, an increase in sustainable funding has been a major driving force behind the creation of ArchWay. But the expectation of an increase in sustainable funding has not come to fruition.

In fact, this evaluation using the performance measures shows that the ArchWay project was not well defined and so managing funding was more difficult for the CNSA. In 1998, the CNSA presented its business plan to the provincial government. The plan, Table 3 – 2, indicated that in 1998/1999, the CNSA had a commitment of $45,125 (sources are not specified) and needed $28,175 for the ArchWay Archivist's full salary, travel, and hardware. In 1999/2000, the CNSA had a commitment of $23,700 (sources not specified) and needed $49,100 for the ArchWay Archivist's full salary, travel, and training. Funding for April 2000 to March 2003 was estimated at $27,800 per year for the ArchWay Archivist's salary half time, travel, and hardware/software. The total money requested from the provincial government for the ArchWay project was $160,675 over five years. While the provincial government did increase their support in 1998 from $5,100 to $17,000, it was not close to the $45,000 plus for which the CNSA had originally requested. Futhermore, this $17,000 was cut to just over $15,000 in 1999. The *ArchWay Project Proposal*, a business plan aimed at the provincial government, was

largely unsuccessful. The provincial government never really provided money for this project[19] – it was simply not a government priority.[20]

In addition to the concerns about provincial funding, money for the ArchWay Archivist's position was also never secure. The CNSA did take advantage of the Young Canada Works program, but that funding was always short term and not to be used continuously for the same person and project. For the first year and a half, the Committee relied on four-month Young Canada Works grants to keep the project going. This course of funding was never assured and the project was often in jeopardy of coming to a sudden halt.

The federal government continues to support the CNSA through CCA grants, but the money supports specific projects and is not for operational purposes. By 2000, the possibility of CAIN money was becoming a reality. When approached in December 1998 for estimates on how the CNSA would use CAIN money, the CNSA had hoped to use a small amount for administrative support. But when the CAIN funding streams were

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[19] Unfortunately, the CNSA's request for new funding came at a time when the Provincial Government was examining its spending and even starting to cut back on some programs. Nova Scotia's *Public Accounts* for the years 1995 to 2001 are not consistent for the way in which the Department of Education used their funding, but the figures do show a decreased budget.

[20] Indeed, the database may still not exist without the generosity of NSARM in sharing a server and software as well as allowing a close working relationship between the ArchWay Archivist and the database archivist at NSARM. Although secure funding was not achieved, the ArchWay project was successful in solidifying CNSA's close relationship with the largest institution in Nova Scotia – NSARM.

determined by the CCA in March 2000, [21] the CNSA's hope of using the money for

administrative purposes was minimized. Funding for the management of CAIN funds

and projects could not exceed more than 10% of the allotment per annum. As Table 4 – 4

shows, the Nova Scotia's full allotment for this stream would not exceed $15,000 a year.

No other funding partners have been involved in the project. ArchWay was also

intended as a means to forge business links and draw in the private sector. Nielsen

Consulting's feasibility study (1997, 19-22) suggested that the CNSA had at least four

funding options: to use grants (i.e., Young Canada Works and others), to target

foundations that support heritage projects, to involve InNOVAcorp in the project, and to

approach the provincial government to increase the CNSA's allotment. But of these four

options, the CNSA Executive decided to use grants and work on increasing provincial

funding. In the early stages of the ArchWay project, grants like Young Canada Works

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[21] The Canadian Council of Archives' (2000, CAIN forum 13-14) funding streams for CAIN were determined as:

1, preparation which covers only description and not arrangement;

2, technical network infrastructure (i.e. equipment purchasing), functional and/or operational requirements; and, research and development;

3, scanning and digitization of archival holdings and finding aids, which is not a priority;

4, professional, technical and related supporting the development of CAIN, which is in support of, but not replacing, the Professional Development grant programme; and,

5, management of CAIN funds and projects.

The allocation of CAIN funding for Nova Scotia is $500,000 over three and a half years. Table 4 – 5, shows the breakdown of this money, proposed in mid-2000 by the Provincial Archivist, Brian Speirs.

Table 4 – 4 Proposed Annual Allocation with Breakdown for CAIN Funding Streams
(Based on figures provided by Speirs 2000, 1)

Funding Stream	2000/01 (half yr)	2001/02	2002/03	2003/04	Total
One	62,250 (83%)	124,500 (83%)	99,000 (66%)	62,500 (50%)	$348,250
Two	3,750 (5%)	7,500 (5%)	10,500 (7%)	12,500 (10%)	$34,250
Three	------	-----	15,000 (10%)	12,500 (10%)	$27,500
Four	1,500 (2%)	3,000 (2%)	10,500 (7%)	25,000 (20%)	$40,000
Five	7,500 (10%)	15,000 (10%)	15,000 (10%)	12,500 (10%)	$50,000
Total	$75,000 (100%)	$150,000 (100%)	$150,000 (100%)	$125,000 (100%)	$500,000

were used to begin the project. The Executive also approached the provincial government two times in attempts to secure an increase in funding. No other efforts to target foundations or involve InNOVAcorp are recorded in the minutes and documents of the Executive or the ArchWay Committee.

Funding, especially sustainable funding, remains a critical issue for the CNSA. The ArchWay project itself was not successful in attracting funding; the national CAIN initiative has brought short-term funding that must be used according to the specified guidelines. The necessary funds to continue operating the CNSA were not secured by the Executive through this project. Although the province did increase their allotment to the CNSA, this money will not sustain the CNSA into the future.

Table 4 − 5 provides a breakdown of each performance measure and its corresponding sub-points as provided within the *ArchWay Project Proposal* (10) and the author's comment on whether or not that performance measure has been met by the CNSA through the ArchWay project as provided by commentary in this chapter. A performance measure for planning, which is not part of the *ArchWay Project Proposal*, has also been included.

Table 4 – 5 Performance Measures to Evaluate ArchWay as a Process
(Based on the *ArchWay Project Proposal* and the author's commentary)

Performance Measures			Comment
Planning • effective planning process.			No
Service • increased accessibility of archival material.	o	descriptions of holdings in institutions can be accessed from any distance.	Yes
	o	descriptions will be standard, so information is easily recognizable.	Yes
	o	searches can be done across the holdings of all institutions in the province.	Yes
Cooperation • increased communication among CNSA members and institutions.	o	to easily find related records in other repositories.	Yes
	o	to easily find contact information for colleagues.	Yes
	o	help with formulation of descriptions, smaller networks of colleagues set up.	No
	o	strategies for and rationalization of acquisition can be developed knowing where certain records are currently housed.	Yes
Profile • increase public awareness of the role and value of archives.	o	increase use of archives.	N/D
	o	increase in donations of valuable records to archives.	N/D
	o	potential for broadening the base support.	No
	o	availability of archival descriptions for educational uses.	N/D
Training • increased archival professional standards.	o	Nova Scotian archival practice will meet national and international standards.	N/D
	o	to establish a system of periodic review of training and descriptive practices.	Yes
Standardization • increased standardization across cultural institutions.	o	better cooperation with museums and libraries.	No
	o	less duplication of effort in creating and maintaining information.	No
Funding • focus for funding initiatives.	o	bringing funds into the archival community to support a well defined project with tangible and quantifiable benefits.	No
	o	to forge business links.	No

Note: N/D represents Not Determined.

Based on the evaluation of these performance measures, the ArchWay project has

been only partially successful at this point in its development. Although the *Service* and

Cooperation performance measures show that ArchWay has great potential, Table 4 – 5

indicates that *Planning* and the *Standardization* and *Funding* goals outlined in the

ArchWay Project Proposal have not been met by the CNSA. A lack of planning is key to

this evaluation of the project; proper planning on behalf of the Executive and ArchWay

Committee may have prepared the CNSA to manage the other performance measures –

especially *Funding*. Because the CNSA did not consider attempting to find a private-

sector partner,[22] they relied on government funding which was both inadequate and

insecure. The *Profile* and *Training* performance measures have not yet met their goals.

Certainly *Profile* has not been measured among the member institutions or by the CNSA,

warranting further study.

Besides the shortfalls that are made apparent from the performance measures,

other criticisms of the project may be made. Most importantly, the Executive did not put

anything in place to evaluate ArchWay and has not revisited these performance measures

since they were written. Perhaps this is why the entire project faced deep-rooted

problems that were never fixed (i.e., weak direction of the project and uneven and

uncertain funding). There was also no extensive exploration of other software; the

CNSA accepted the software used by NSARM without determining if it fit its own needs

and in doing so contributed to the weakness of ArchWay as a product.

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[22] Understandably, this tact would have been difficult for the volunteer-based CNSA. It had neither the
financial resources not the expertise to launch a large-scale campaign. But the ArchWay Committee
minutes reflect that fundraising was not considered an option.

EVALUATION OF THE ARCHWAY AS A PRODUCT

This evaluation of the ArchWay database is based on criteria derived from the literature. As seen in the literature review, libraries have a wealth of experience to draw upon for criteria. However, the features required by a library database are somewhat different from the features needed for an archival database. For this reason, recommendations found in both the library and archival literatures are combined for this evaluation.

As explored in the literature review, Cherry (1998) used a checklist to rate database features (see Table 2 − 1). However, the insistence of Crawford (1999) that checklists only pinpoint design weaknesses cannot be ignored. For this evaluation, a checklist has been devised from Cherry's list and modified with the suggestions of Crawford (1992). But because these authors have library training and not an archival background, the studies by Duff and Stoyanova (1998) and Hutchinson (1997) are also incorporated. When all of these recommendations are compiled into a single checklist, the resulting criteria fall into four categories: search, display, data, and help and menus.

Table 4 − 6 is the database feature checklist that the author derived from the literature review and applied to ArchWay. The left column of the table lists the feature criteria; the middle column gives the results when the criterion was applied to ArchWay by the author. If a recommended feature is included on the database, the result was simply a 'Y' for yes; 'N' for no was recorded if a feature was not available. The author's conclusions, as based on the yes/no answers, are recorded in the right column.

Table 4 – 6 Database Feature Checklist, Applied to ArchWay by Author
(Checklist items compiled from Cherry and others 1994; Cherry 1998; Crawford 1992; Duff and Stoyanova 1998; and Hutchinson 1997)

Feature Criteria		Results when applied to ArchWay
Search		**Conclusions**
Quick and in depth	Y	o Searching is powerful.
Keyword / Boolean	Y	
Searching not case specific	Y	
Ability to browse terms	Y	
Access points available	Y	
Includes cross references	Y	
Break key	N	
Default values and limits	N	
Display		**Conclusions**
Good visual design – lots of white space	N	o Display features and layout is
Central axis	Y	not strong.
Brief or long records	N	o Navigability is very poor.
Labels in full – no jargon or abbreviations	Y	o Search screen could be better
Uppercase labels	N	designed.
Search fields clear	Y	
Search request displayed on top	N	
Total number of items given	Y	
Sorting available	N	
Navigability	N	
Data		**Conclusions**
Print / download / e-mail	Y	o The data is strong and can be easily
Reliable data	Y	provided to the researcher.
Data current	Y	o Printing screens should be better.
Help and Menus		**Conclusions**
Help screens	Y	o Help and menus are present, but
Help useful	N	they are not concise or clear.
Menu choices consistent	Y	o Help has too much content.
Menus helpful	N	o Menus are not clear for intent
Clear error messages	N	and confuse the researcher.
Lists search types	Y	
Ability to communicate with staff	Y	
Comment box available	Y	
Aids in data retrieval	N	

As discussed in the literature review in Chapter 2, Duff and Stoyanova's study of 1998 (51, 52, 54, 61) demonstrates that not only are user database evaluations important, the users know what they want featured in a database. For this reason, the checklist used for Table 4 – 6 also formed the basis of an ArchWay user survey.[23] For this survey, the feature criteria used in the checklist were modified to become evaluators with assigned rankings. The purpose of this survey was to evaluate ArchWay from the users perspective without the assistance of an archivist, simulating a researcher entering the database on the Internet. Twelve individuals were targeted for the survey. All participants had an academic, library, or archives background. Each participant was given the database's Internet address and asked to use the online version while rating the database on four things - help and menus, searching, displaying, and data. Participants were given a checklist, created by the author using recommendations from the literature review, and asked to assign unsatisfactory, satisfactory, and very satisfactory for each item. Space was also allowed for comments that would help evaluate this database. The survey was done between May 14 and May 19, 2001; the ArchWay display and screens were formatted exactly as they are seen in Figures 3 – 1 to 3 – 11. It is important to note that this survey was not scientific; its intent was to gauge user satisfaction. The results reflect the opinions of a small, educated sample of users. Random chance from this sample is that 70% of the participants had never used ArchWay before and over half

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[23] The survey is included as Appendix A.

indicated that they did not like ArchWay. Therefore, the results of the survey warrant

further exploration.[24]

Ten of the twelve participants returned the survey. One participant had never or

rarely used an online database; five participants sometimes used online databases; and,

four participants frequently used online databases. Three participants had used ArchWay

previously to this survey, meaning that seven participants had not used ArchWay before.

When asked to assign an overall ranking to the database, six participants rated ArchWay

unsatisfactory, two participants rated ArchWay as satisfactory, one participant rated

ArchWay as very satisfactory, and one did not rate ArchWay overall. Participants were

asked to make additional comments on ArchWay to qualify their rating for their overall

feeling towards the database. In summary, most of the comments indicate confusion and

dissatisfaction with ArchWay. This is not surprising based on the over half of the

participant's overall rating of the database being unsatisfactory. Negative comments

about ArchWay included:

- Not user-friendly and frustrating.
- Daunting and unwieldy.
- Need to use a number of times before you understand what you can and cannot do.
- Very technical, geared more to archivists and not the general public.
- Large blocks of text in the introduction are overwhelming. This should be put with the help screens.
- No ability to browse from a general search term.
- Search terms are too specific.
- Complicated and will only give desired results if the exact search terms are used.
- Low number of records on database may cause limited searching and therefore less positive results.
- Do you need to know a 'title' to find a document?
- Cannot see more than one complete description at a time.

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[24] The compiled results of the survey are included as Appendix B.

- Site needs some mild copy-editing.

Two comments about the overall database were positive:

- Looks good, well organized, searching is easy, seems to retrieve what it should.
- Has potential especially for members.

Within the survey, the participants were asked to rate specific features and comment on the performance of those features. The features formed four groups: help and menus, search, display, and data. Together, the ratings and the comments made by the participants indicate specific weaknesses in ArchWay.

For the help and menus, 24% of the participants were unsatisfied, 57 % were satisfied, and 19% were very satisfied. Participants felt that there was too much information on the help screens and that the screens were very wordy and possibly intimidating for the novice user. The use of jargon was also considered daunting to some of the inexperienced users. One participant indicated that links to the glossary helped with the jargon. However, some indicated that the help screens were more informative than the glossary screens. A few participants indicated that some of the glossary links did not work when selected. One participant observed that some of the glossary meanings seemed incorrect or contradictory to the help screens. For another participant who read the glossary and help screens, the 'title of fonds' was still unclear.

The search screen was also considered poorly designed for inputting search terms. 45% of the participants rated the search screen as unsatisfactory, 44% rated the screen satisfactory, and 11% rated the search screen as very satisfactory. One participant commented that the search engine was difficult to use because the terms had to be too

exact. Selecting those exact terms from the Access Points window and/or the Subject

window was also not helpful because some of the cross references did not work.

The display of descriptions rated higher with 29% participants being unsatisfied,

48% being satisfied, and 23% being very satisfied. One participant indicated that the

display was visually pleasing. But, most participants indicated that it took too many steps

to find the description; one participant indicated that the user should be able to click on

the title of the fonds to go to the description instead of selecting the corresponding view

box and then the appropriate button.

Once the description was displayed, participants were asked to assess the data and

the ability to use the data. 62% of the participants were unsatisfied with the data, 31%

were satisfied, and 7% were very satisfied. Mostly, participants were unable to properly

assess the data and use it. Two participants were not sure how to print a description.

Four participants were not sure how to download or e-mail a description. Six participants

found the reliability of data difficult to assess. Four participants found the consistency of

data difficult to assess. One participant found the ability to assess if the data is current to

be difficult.

Despite Crawford's (1999) argument that checklist evaluations are not useful, an

analysis of the user survey results generally supports the author's conclusions about the

database. But it is important to note that the survey was not a large enough sample or a

diverse enough sample to be scientific. However, the survey did indicate general

weaknesses in ArchWay and the users' opinion by showing the overall dissatisfaction

with ArchWay's performance. These results of the user survey (Appendix B) and the

author's original checklist conclusions (Table 4 – 6) indicate that the help and menus are

difficult to understand, that searching could better designed for ease of use, and that

navigability is poor. The author and the users surveyed disagreed on some features,

although this may be because of the author's familiarity with ArchWay as compared to

the majority of those surveyed. For example, the data on the database was difficult for

the users to assess; however, the author's knowledge of the data assists her with the

assessment. As suggested by Tibbo (1994) and Czeck (1998), the descriptions are mostly

consistent and reliable. The users also found searching difficult; however, the author has .

used the search engine often enough to determine that it is powerful, although not easy to

use immediately.

For this reason, the conclusion can be drawn that ArchWay is not for the

inexperienced researcher. Crawford (1992) suggested that databases should be simply

designed so that the researcher can determine how to do a search and retrieve results

quickly. According to the survey, seven participants had never used ArchWay and six

were unsatisfied with its performance. One can infer from these numbers that those who

had not used the database before were also unsatisfied. ArchWay is aimed at the public

whose database experience may often be lower than this user sample, 90% of whom had

previous database experience but not necessarily with ArchWay. But this cannot be

proven. Indeed, ArchWay's performance and the survey seem to support Duff and

Stoyanova's (1998) findings and Taylor's (1992) suggestion that archival databases are

designed for archivists and not for the researchers.

ArchWay can be strengthened to be more useful to the first time researcher. Before entering ArchWay, there are a number of support screens (Figures 3 – 2 to 3 – 7) that are intended to help the researcher understand the database and the methods of searching. Although these screens are helpful, they are too long and detailed for the average researcher. Crawford (1992) suggested that help screens need to be carefully worded to be instructive and concise. One support screen (Figure 3 – 3) attempts to explain the concept of a multi-level description. Indeed, as demonstrated by the survey, inexperienced researchers will not understand a multi-level description by reading a support screen. An archivists' assistance to interpret the information may still be needed. Taylor (1992) suggests, support screens do not replace human assistance and/or verbal explanation. However, in the case of an online database such as ArchWay, human contact is not readily available to the researcher.

The assistance of an archivist may also be needed for searching ArchWay. Indexes provide terms for institutions, access points, and subjects. Czeck (1998) observed that historical researchers tend to search for dates, geographical locations, names, and subjects. Certainly, access points do include dates, geographical locations, and names, but the explanation of 'access points' on ArchWay's search screen (Figure 3 – 7) indicates that the access points index includes 'provenance, authors, and non-subjects.' This example shows that although the support screens do address searching methods (Figure 3 – 5 and 3 – 7), searching instruction is still ambiguous.

Searching ArchWay is also awkward.[25] For example, in order to see the search terms

in the institution index, the researcher must select the 'Institutions' index link on the

search screen (Figure 3 – 8). A sized window (Figure 3 – 9) appears with the chosen

index in alphabetical order. The terms in the index are not linked back to the search

screen. So, the researcher must either know how to highlight, copy, and paste the index

term in the search field or remember the index term and type the information in the

appropriate search field. Both Hutchinson (1997) and Czeck (1998) stress that searching

must be flexible to be effective. Searching ArchWay is complicated and not readily

apparent to the first time researcher. Instead, drop boxes should have handled search

term indexes. Under this proposed scenario, the researcher would select the information

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[25] This may be the fault of the software, GENCAT, which is powerful and archival-function specific but not user-friendly. It is a relational database software and so has all of the capabilities necessary to support multi-level description. Eloquent Systems developed the GENCAT Archives System. The software is practically plug and play as its fields are already set up according to RAD. GENCAT includes fields that are unlimited in length and do not require extra formatting. All fields are contextually searchable with automatic indexing (Eloquent Systems Inc. 1997). According to the GENCAT Database Administrator for NSARM,

> GenCat is based on a network relational database model which allows all field values to be related equally to one another in any combination of relationships. This model provides the flexibility that archives require for the core archival operational functions particularly multilevel RAD descriptions. Reading between the lines of technical mumbo-jumbo that means that the true structure of RAD can be replicated and managed effectively with this system. Fonds, series, sub-series, etc. can all be correctly related to one another and relevant data from high level fields can be effectively and automatically incorporated within the lower levels of archival description (Maxner 1999).

ArchWay may have been a stronger database if the software allowed for modifications to its searching and navigational capabilities. GENCAT has the benefit of being designed for archival descriptions and has definite strengths in searching capabilities, but it is not user-friendly. As was seen in the user survey, the lay person has difficulties with the software. The problem is two-fold: one, the software causes the layout and navigation to be awkward; and, two, the searching and displaying are not straightforward. The result of this is that the software makes ArchWay difficult for the researcher to use. The checklist method used in this evaluation flushes out the particular flaws.

directly from a drop box index – no cut and paste or typing would then be required.[26]

The terms used in the access points and subjects indexes are fairly consistent, as

suggested by Tibbo (1994). However, as one participant in the user survey found, a

number of linked cross-references in these indexes are blind references.[27] For example,

in the subject index, the cross references of 'Carpentry', 'Presbyterians', and 'Regional

Planning' were blind references. Many of the cross references in the access points index

did not work either; blind references included 'Binney, Hibbert, 1819-1887', 'Nova

Scotia Resources Development Board', and 'Smith Co. (Halifax, N.S.)'. These are only a

few examples representing numerous blind references in both indexes.

After the database has searched for the information supplied in the search field, a

browse list of descriptive titles resulting from the search is displayed (Figure 3 – 10).

Tibbo (1994) suggests that this type of list should have a display order and a sort

function. The order of the display appears to be alphabetical by name of the institution.

A sort function is not available on the screen.[28] The instructions at the top of the screen

read

> You can view the descriptive records in detail by selecting the corresponding
> checkbox and clicking [OK]. The field <u>Consists of</u> denotes a corresponding level
> of description where applicable. You can navigate through the additional levels of
> description by choosing one of the following options found at the bottom of the

---

[26] Although the author had suggested this feature during the screen's design process, the ArchWay Committee did not consider it. At that time, the ArchWay Archivist was not familiar with the programming of the software and relied on the limited expertise of NSARM's Database Administrator for technical assistance.

[27] A cross-referenced term (like 'see' or 'see also') leads the researcher to another related term. A blind reference happens when that other related term is not included in the same index.

[28] The software does not allow for sorting of the results.

screen: *Show all higher levels* or *Show all lower levels*. For more information about the structure of the records, please click [Help]. (Figure 3 – 10)

Although this paragraph does provide the researcher with clues as to how to proceed, the browse list table itself is still confusing. There is too much information on the table, making navigation difficult. This table would be less confusing if it displayed only the title of the description and the corresponding institution (which can be helpful when looking at titles). Despite the instructions on the screen, the options to 'View details', 'Show all lower levels', and 'Show all high levels' are ambiguous.

This navigation could be more easily done. One participant in the user survey indicated that she would prefer to click on the title to go to the description instead of selecting the corresponding view box and then the appropriate option for viewing. Based on two of the entries provided in Figure 3 – 10, a browse list in a simpler format such as Figure 4 - 6 may be more helpful to the researcher:

Figure 4 - 1 Proposed Browse List screen using two entries from Figure 3 – 10

ARCHWAY
Nova Scotia's Database of Archival Descriptions
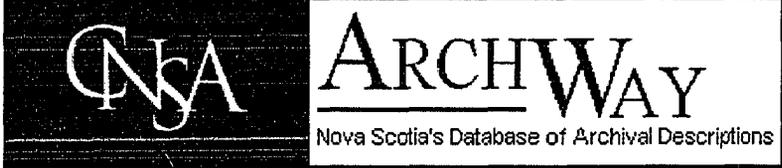
Browse list for your term "**Cape Breton**"

Title	**Institution**
Cape Breton Area fonds	Girl Guides of Canada Nova Scotia Council Archives
Supreme Court of Nova Scotia in Cape Breton County fonds	Nova Scotia Archives and Records Management

Under this proposed scenario, the institution name would act as a link to their home page. The fonds titles would link to another screen that would list only that one fonds and its related series and sub-series. This screen would also act as a brief record for the description, proving the date and extent of each level. For example, if the researcher clicked on Supreme Court of Nova Scotia in Cape Breton County fonds, the resulting Details List screen would look like Figure 4 - 7.

Figure 4 - 2 Proposed Details List screen, linked to proposed Browse List (Figure 4 - 6)
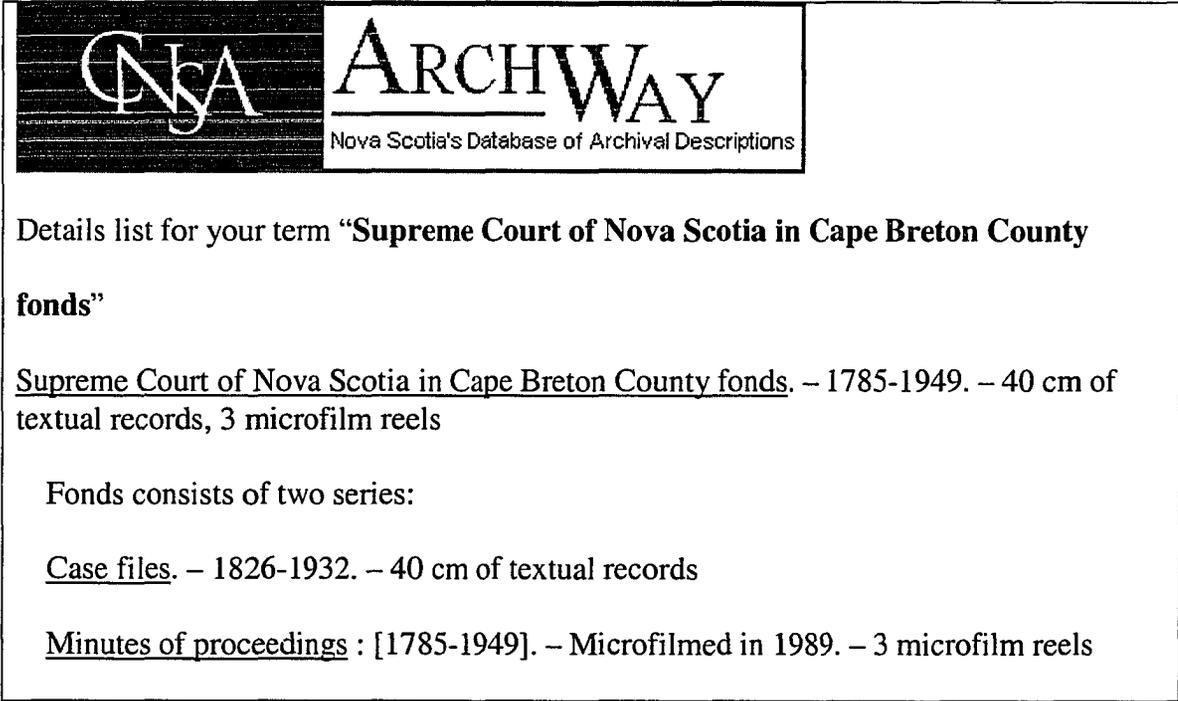
Details list for your term "**Supreme Court of Nova Scotia in Cape Breton County fonds**"

Supreme Court of Nova Scotia in Cape Breton County fonds. – 1785-1949. – 40 cm of textual records, 3 microfilm reels

Fonds consists of two series:

Case files. – 1826-1932. – 40 cm of textual records

Minutes of proceedings : [1785-1949]. – Microfilmed in 1989. – 3 microfilm reels

The titles on the proposed Details List screen (Figure 4 - 7) would be linked to the full *RAD* description. Under this proposed model, the navigation and link to the description are more obvious.

Although some of the description display suggestions outlined by Duff and Stoyanova's (1998) article are incorporated in ArchWay (i.e. central axis, full labels), the

display is still poor when Cherry's (1998) and Crawford's (1992) features are considered.

For example (Figure 3 – 11), the search term is not included on the screen, there is no

ability to view either a full or brief record, and the labels are not upper case and are not

effective on the green background. The description display screen is also difficult to

print due to the amount of green area. If some or all of these recommended features were

used on the description display, the screen would be easier for researchers to read and

print.

To some degree, this evaluation of the ArchWay project may be premature. The

database is still in development and may not yet have enough records to reflect the

workings of the database (i.e., the recall vs. precision ratio – especially with respect to

subjects). However, ArchWay does rate high in terms of potential and effectiveness.

Researchers will be able use this Internet-accessible tool to find archival records in Nova

Scotia, do preliminary research before visiting or e-mailing, and find out where the

records are being held.

But, the service aspect of ArchWay cannot be the deciding factor of success. The

other performance measures pinpoint the weaknesses of the project. In issue 35 of

Archivaria, author John McDonald (1993, 112) wrote about cooperative ventures

between archives, saying:

> Regardless of the type of cooperative venture, however, in order to cooperate
> successfully, organizations require clear goals – goals which define both what the
> cooperative initiative is to achieve, and how the individual participants are to
> benefit through their cooperation. To establish these goals, however, institutions
> also need to be clear about why they are cooperating. They need a clear
> understanding of their mission, a concept of where they want to be, a set of tools

and techniques to help them get there and staff who possess the knowledge and skills required to do the job.

His comments stand true of the ArchWay project and perhaps show where the project went wrong.

This analysis points to another set of questions about the entire ArchWay project; the answers to which are not embedded in the sources available. Perhaps as the project grows, some of these questions will have answers. Still, asking the following questions is important at this stage of ArchWay's development.

Question one; is there a feeling of ownership by databases' participants? Do they even want ownership? At the beginning of the ArchWay project, the membership had some buy-in; but the participant statistics reflect that these stakeholders seem to have waned in their support. This may be for three reasons. The building of ArchWay has been a long process and is no longer 'innovative' on the national archival scene. Simply put, ArchWay is just not new to or exciting for the membership. Two other reasons are found in Christopher Kitching's (1991) book, which was discussed in the literature review. Kitching cautioned that networked databases have two challenges: the over-centralization by the databases' host with participants dependent on that host and the reliability of database, and a loss of data control by the participants. In the case of ArchWay, both of these challenges hold true. The ArchWay Archivist does all of the inputting and editing of descriptions included on the database. The participants are unable to know how often their descriptions are uploaded and/or updated. This situation makes the participants reliant on the ArchWay Archivist to control their data.

Question two; should the CNSA have copied the model in British Columbia as suggested by the Provincial Records Manager in 1995? At that time, the CNSA investigated the possibility, but decided not to outright adopt the model. This may have been a bad decision. Certainly, BCAUL has been a very successful project. At the end of its first decade, 166 institutions contributed 9000 records to the database. In 1999, BCAUL had 86,794 hits in two months (Purver 2000). Perhaps this success is because the goals of the project were different from ArchWay's goals. British Columbia's database project was used to enhance the image of archival institutions and to promote their work. A lot of press coverage and related activities followed the project. When the archivist visited an institution, the local newspaper often published a short article. Archival institutions in the province have also been able to use BCAUL to promote themselves and enhance the public's education both nationally and internationally. In addition to outreach, participating institutions do have some control over the descriptions. The software is also flexible. Participating institutions can filter the database to show descriptions only in their institutions and so use the database as their in-house finding aid (Archives Association of British Columbia 1999). For these reason, the results of BCAUL have been different — maybe even better. As this thesis points out, ArchWay cannot claim such successes.

Question three; did ArchWay meet its original goal to increase the CNSA's core funding? As determined in the background chapter, the CNSA wanted ArchWay to be an attraction for core funding; it was not. Indeed, ArchWay did not attract 'core' funding at all — only limited money for the specific project. ArchWay was not the answer to the

CNSA's funding crisis. Certainly, the project had the potential to attract money from both the public and private sectors. With the public sector, InNOVAcorp told the CNSA on at least two occasions that to fit the terms for provincial funding, they needed to find a private sector partner. This route would have been difficult for the volunteers of the CNSA, but was a clear option that they chose not to investigate – rightly or wrongly. As a result, InNOVAcorp stopped discussing the project with the CNSA. With the private sector, corporate sponsors and private foundations should have been approached for funding. However, the CNSA felt that this could not be done without some backing by the provincial government. In short, the CNSA could not overcome this chicken-and-egg situation. ArchWay is weakened because of the CNSA's focus on increasing core funding and not on the product itself.

Question four; should the CNSA have waited for the CAIN money before proceeding with the database project? Other provinces hesitated and waited for the assurance of CAIN funding before proceeding with their database projects. The CNSA had begun to discuss a database as early as 1995 before the exploration of CAIN and the expectation of CAIN money seemed to face numerous delays. Although the CNSA was anxious to have the ArchWay project continue, it may have been advantageous to wait until the CAIN funding was assured. Certainly, the CAIN money is the most stable funding for the ArchWay project. But if the CAIN money ends in four years, the database may go into suspended animation status. At this point, it is too soon to determine if ArchWay will survive without CAIN funding.

Question five; did the CNSA consider the full options and involvement of the project? Based on the performance measures, this does not appear to be so. The idea of a provincial database was, and still is, favourable. Building and sustaining such a database is, perhaps, more difficult than the CNSA expected. ArchWay has not solved many problems for the CNSA; indeed, it has created more problems for them.

The ArchWay project concept was re-born during a time of anxiety as a response to the fear of losing funding for the CNSA's operation and activities. However, until the infusion of CAIN money for ArchWay, the database project served to increase their funding anxiety. The lack of planning and financial security has weakened the entire project; this weakness is reflected in the product – ArchWay.

CHAPTER FIVE

CONCLUSION

Since 1995, the CNSA has focussed a great deal of its attention, time, staff, and

resources on the creation and maintenance of a provincial archival database called

ArchWay. This centralized database of Nova Scotia's archival descriptions began in

1997 and was finally launched in May 2000. The online database contains over 600

archival records descriptions held in 30 select member institutions.

This thesis critically examines ArchWay, Nova Scotia's Database of Archival

Descriptions. The purpose of this thesis is to assess the reasons for the creation of the

database while evaluating the ArchWay project as a process and then as a product. This

examination provides the CNSA with a critical look at the ArchWay project and may

even assist other archival organizations that are working on, or planning, a similar

database project. More importantly, this thesis examines a critical change of focus for

archival institutions not only in Nova Scotia but also in all of Canada.

A method similar to that of a case study is used to evaluate both the process and

the product of ArchWay. The introduction in chapter one explains the nature of the

materials held by an archival institution – being original, unique, and primary records.

During the 1970s, Canadian archival institutions were encouraged to adopt a 'total

archives' concept, meaning the preservation of all material formats for the sponsoring

body's records and for private records in a centralized location. Archivists altered this

concept in the 1980s to become the Canadian Archival System. Under this system,

preserved material is maintained locally and institutions are encouraged to work

cooperatively to preserve archival material. The CNSA, along with archival associations in other provinces, grew out of this desire to enhance cooperation and networking in the form of a Canadian Archival System.

By the 1990s, the meaning of networking expanded to incorporate the creation of centralized databases. Certainly this was not outside of a general mandate for archival institutions – to make material accessible. But a centralized database on the provincial level, even the national level, was a large and complicated task. The ULM project of the 1960s to 1980s demonstrated that such a large undertaking was difficult to maintain and that national descriptive standards were necessary for its success. As a result, RAD was developed through the late 1980s and refined though the 1990s, making archival description databases possible.

For this thesis, published studies of databases are explored and the results are later applied to ArchWay for analysis. The literature review in chapter two discusses ten relevant library and archives studies published between 1991 and 1999. Many important points are found in the literature review. Gilliland (1988) and Kesner (1984) explain that the key to creating a successful database is careful planning. They discuss the importance of an empowered steering committee to direct the project. User-friendly design is also key. Taylor (1992) indicates that in his experience, archivists design for themselves and not for the user. Duff and Stoyanova (1998) demonstrate that users know what they want in a database design and so should be involved with that aspect of planning the database. Crawford (1999) points out that design must accommodate easy searching and displaying with options for advanced searching and displaying. This is

important because, as Taylor (1992) indicates, help screens cannot explain the inter-workings of a database as well as verbal interaction. Tibbo (1994) discusses how large, complicated databases are not necessarily user-friendly and produce less precise search results. Precision results are important, explains Hutchinson (1997), especially because of the impact of total archives and the push to create large, centralized archival databases. All of these studies contribute to the evaluation of ArchWay.

Drawing mainly on the CNSA's own documents and reports, a discussion concerning the development of the database follows in chapter three, providing the background necessary to understanding the building of ArchWay. The CNSA has a diverse membership and provides many strong services to the archival community in Nova Scotia. Funding is available from the CCA for special programs such as training and preservation, but not for CNSA operations. CCA funding was highest in 1992, when funding for preservation programs became available; but then funding began to decline slowly. The CNSA felt that this decline would become the norm and was concerned with its core funding. The Executive Committee made a critical decision in the mid-1990s to define a project that would attract the interest and financial support of the provincial government; a decision that affected the CNSA's direction to the end of the decade. A database project, later known as ArchWay, was identified as the key project to attract government funding. The CNSA struck a Steering Committee in 1996 to define the project and outline a strategy; the Executive Committee disbanded this Committee in 1999. Before approaching the provincial government, a feasibility study, funded by the CCA, was done in 1997. That study, called the *Archival Database Project : Final*

Report, indicated that the project would take three years to become functionally comprehensive, at an estimated cost of $55,000-$75,000 per year. Later, a small increase in provincial funding to support CNSA's operations was obtained after it developed a business plan – the *ArchWay Project Proposal*. This proposal identified a need for $105,075 between 1998 and 2003. The CNSA also hoped that federal funding might become available through a nation-wide project, CAIN that would potentially bring $500,000 to the project over four years. A small sample database was implemented by the Steering Committee in 1997 with piecemeal grant money but no sustainable funding. ArchWay started with 32 records as a sample and has grown to over 600 records in 2001. This entire development of ArchWay is later used in the analysis and evaluation of the project. A walkthrough of the database's screens provides an illustration of how ArchWay works and assists with the final analysis.

Using the information gathered for the literature review and the background discussion, the results and analysis in chapter four evaluates the process and the product. For process, the evaluation looks at seven performance measures: *Planning*, *Service*, *Cooperation*, *Profile*, *Training*, *Standardization*, and *Funding*. Results show that ArchWay has met some of these goals, especially with respect to *Service* and *Cooperation*. There has been a small increase in the accessibility of archival material in Nova Scotia and an increase of communication among CNSA members and institutions. But, an increase of standardization across cultural institutions in Nova Scotia is not apparent. A lack of direction and planning also weakened the project from the outset. Difficulty in finding funding has also weakened the project's goals. Furthermore, some

of the performance measures have no data because the Executive Committee has not revisited the original performance measures to evaluate the project. This includes determining if ArchWay has increased public awareness of the role and value of archives – an important building block to secure more funding. To add to these shortcomings, the software may not have been right for the CNSA's needs. GENCAT plays an important role in the evaluation of ArchWay. This product evaluation combines a user survey of the search, display, data, and help menus features along with database suggestions found in the literature review. Although the user survey is a small sampling, the answers are consistent and insightful. These results, combined with the suggestions in the literature, pinpoint ArchWay's difficult features and show that the database does not stand up to the measurements specified by the CNSA or from the checklists. Referring back to the images included in the walkthrough, suggestions are made about how to make the database stronger and more user-friendly. The results of this chapter are intended to assist database creators in archives and the CNSA itself to better meet the purposes and benefits of creating an online archival database.

Given this critical examination of ArchWay, a number of recommendations are apparent for the CNSA and other archival organizations considering building their own databases.

1) A strong planning and implementation process is necessary. Not only is careful planning important to funding, it is also necessary to the process.

a) Set up a steering committee with a strong mandate. That committee must be empowered with the tools to build the database and draw from the expertise of a

cross section of members and users. The committee must be able to monitor the

project regularly.

b) Create a strategic plan. Before beginning work on the database, the steering

committee should define the project, and its corresponding goals and

expectations. Link together each stage of the project and its corresponding task.

Set realistic timelines in the strategic plan and create measurements to monitor the

project by evaluating what has been accomplished and then revising the plan with

new information.

c) Involve the user at all stages, including the planning and design processes.

d) Let the participants define their role and involvement with the database; they must

buy in to the project.

e) Think about how prominent the training and publicity should be in the process

and build that in to the strategic plan.

f) Create and implement policy and procedures for consistency. Define the way that

records are submitted and edited.

g) Carefully plan how to use the new federal CAIN money. For the next few years

at least, some sustained funding will be available. Determine how the end

product should look and plan out the use of this money at all stages.

h) Remember, the CAIN money may not continue in the long term. Set up an

infrastructure to maintain the database if the funding is discontinued.

The CNSA should consider writing a strategic planning document to map out the next 3 years – while CAIN funding is available – and 5 years – when CAIN funding may not be available. Past proposals such as the *ArchWay Project Proposal* (Table 3 – 2) and the two proposals for the use of CAIN funding (Tables 3 – 3 and 4 – 5) no longer reflect the current reality. Those funding figures are estimates and do not have goals attached to them. The CNSA also needs to plan out how the other funding grants, such as the Professional Development and Training Programs and Control of Holdings grants, fit into these goals.

2) Database selection and design is very important.

    a) Look at a variety of other archival and library databases for software capabilities and features. Decide which of these features are preferred and model a database accordingly.

    b) Choose software carefully, making sure that it can accommodate the preferred features.

    c) Build the database to have a simple format and user-friendly design. That design should include easy and advanced searching options, flowing navigation, and carefully planned and worded help screens.

    d) Create a database for researchers – not only for archivists, remembering to get user feedback at all stages.

The CNSA has many strengths, such as its education and outreach programs and its membership supports these activities. Perhaps, a database project should have been built with those strengths in mind and not as an attempt to increase funding for the CNSA. ArchWay could have been a stronger product if it had been built in response to supporting education and outreach needs of the membership. This possibility requires further study when the final analysis of the ArchWay project is undertaken as the project is much closer to completion.

ArchWay remains a project that deserves endorsement from the membership and the archival community. The ArchWay project is a good idea that has faced many challenges in practice. But now, some of those challenges – such as sustainable funding – are eased. The project is ongoing and being shaped by the infusion of money through the CAIN initiative. This is the best time for the CNSA to strategically plan the rest of the project and the way in which the ArchWay project supports their other goals. This strategic plan will result in ArchWay being a stronger project and will strengthen the position of the CNSA.

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APPENDIX A: THE ARCHWAY USER SURVEY

May 2001

Dear Survey Participant:

Thank you for agreeing to participate in this survey.

You have been chosen because your experience with databases fits into one of three categories: inexperienced database user, casual database user, or experienced database user. In total, 12 participants have been chosen for this survey.

Please do not sign or initial your survey sheet. Your name will not be recorded as part of this survey. Should you have any comments or questions, please contact me directly.

Your individual answers to this survey will be used for my personal academic research only. However, the total results will be made available in the final publication.

The purpose of this survey is to evaluate, from the users perspective, the Nova Scotian archival database called ArchWay. I have not included any database instruction or 'hints' because ArchWay must be evaluated from the user's point of view. Many users of this database will not have previous knowledge of or experience with this database.

I ask you to evaluate the design of the database' search functions, display features, assistance features, and data. Each question is rated on scale of 1 to 3 –
1 = unsatisfactory; 2 = satisfactory; 3 = very satisfactory. I have also allowed space for your comments. Please feel free to make any comments that you feel will help evaluate this database.

Attached is a short survey to apply to the ArchWay database, which is online at http://fox.nstn.ca/~cnsa/ArchWay/index.html
I estimate that this survey will take approximately 15 minutes to complete, depending on your Internet connection.

Wendy G. R. Bullerwell

Please circle the selection that best describes your database experience
    I never or rarely use an online database.
    I sometimes use online databases.
    I frequently use online databases.

Have you used ArchWay before? Please circle YES or NO

Please circle either 1 = unsatisfactory; 2 = satisfactory; 3 = very satisfactory

Help and Menus	Rating	Notes
Usefulness of introductory screens	1 2 3	
Usefulness of instructions	1 2 3	
Usefulness of help screens	1 2 3	
Usefulness of glossary	1 2 3	
Consistency of menu choices	1 2 3	
Usefulness of menus	1 2 3	
Questions on comment box	1 2 3	

Search	Rating	Notes
Clarity of search fields	1 2 3	
Effectiveness of keyword search	1 2 3	
Effectiveness of Boolean search	1 2 3	
Overall performance of search	1 2 3	
Ability to browse search terms	1 2 3	
Usefulness of controlled vocabulary	1 2 3	
Usefulness of cross references	1 2 3	
Ability to stop/break a search	1 2 3	
Ability to set default values and limits for searching	1 2 3	

Please circle either 1 = unsatisfactory; 2 = satisfactory; 3 = very satisfactory

Display	Rating	Notes
Visual design	1 2 3	
Informative search results	1 2 3	
Informative descriptions	1 2 3	
Usefulness of labels	1 2 3	
Use of jargon on display	1 2 3	
Navigability of database	1 2 3	

Data	Rating	Notes
Ability to print results	1 2 3	
Ability to download results	1 2 3	
Ability to e-mail results	1 2 3	
Reliability of data	1 2 3	
Consistency of data	1 2 3	
Ability to assess if the data is current	1 2 3	

What is your overall feeling towards this database?   1   2   3
Why?

APPENDIX B: RESULTS OF THE ARCHWAY USER SURVEY

Survey done from May 14 to May 19, 2001.

12 individuals were chosen with academic, library, and archives backgrounds, given the database's Internet address, and asked to use the online version while rating the database on four things - help and menus, searching, displaying, and data. The purpose of this survey was to evaluate ArchWay from the users perspective. Participants were given a checklist, created by the author using recommendations from the literature review, and asked to assign unsatisfactory, satisfactory, and very satisfactory for each item. Space was also allowed for comments that would help evaluate this database.

Here are the results:

2 participants did not return the survey.

When asked to indicate the selection that best described their database experience,
1 participant had never or rarely used an online database.
5 participants had sometimes used online databases.
4 participants had frequently used online databases.

When asked if they had used ArchWay before, 3 circled Yes; 7 circled No.

Help and Menus	Rating Assigned			Notes
	Unsat.	Sat.	V.Sat.	
Usefulness of introductory screens	4	5	1	• Too much information on these screens, should be better able to control the amount of help.
Usefulness of instructions	3	6	1	• Some glossary links did not work. • Some glossary meanings seemed incorrect.
Usefulness of help screens	1	7	2	• Very wordy, possibly intimidating for the novice.
Usefulness of glossary	1	3	6	• Blocks of text too big. • Green banner works properly.
Consistency of menu choices	2	7	1	• Help screens are better than the instruction screens.
Usefulness of menus	1	8	1	• Some comment box questions were too personal.
Questions on comment box	5	4	1	• Two users could not find the comment box.
Average Percentage	**24%**	**57%**	**19%**	

(Note: Unsat. = unsatisfactory; Sat. = satisfactory; V.Sat. = very satisfactory)

Search	Rating Assigned			Notes
	Unsat.	Sat.	V.Sat.	• Menu poor for entering search.
Clarity of search fields	2	8	0	• Searches do not bring up all listings because you have to be too exact.
Effectiveness of keyword search	6	1	3	• 'title of fonds' unclear. • Some cross references did not work.
Effectiveness of Boolean search	8	1	1	• One user was not able to determine the ability to set default values and limits for searching. '
Overall performance of search	6	4	0	
Ability to browse search terms	6	3	1	
Usefulness of controlled vocabulary	2	6	2	
Usefulness of cross references	4	5	1	
Ability to stop/break a search	0	8	2	
Ability to set default values and limits for searching	6	4	0	
Average Percentage	**45%**	**44%**	**11%**	

(Note: Unsat. = unsatisfactory; Sat. = satisfactory; V.Sat. = very satisfactory)

Display	Rating Assigned			Notes
	Unsat.	Sat.	V.Sat.	• Visually pleasing.
Visual design	1	4	5	• Jargon is daunting to inexperienced user.
Informative search results	6	2	2	• Links to the glossary helped with the jargon.
Informative descriptions	1	6	3	• Navigability – took too many steps to find the desired location.
Usefulness of labels	1	8	1	• Should be able to click on the title of the fonds rather than using a view box.
Use of jargon on display	3	6	1	
Navigability of database	5	3	2	
Average Percentage	**29%**	**48%**	**23%**	

(Note: Unsat. = unsatisfactory; Sat. = satisfactory; V.Sat. = very satisfactory)

Data	Rating Assigned			Notes
	Unsat.	Sat.	V.Sat.	• Two were not sure how to print.
Ability to print results	4	5	1	• Four were not sure how to download or e-mail.
Ability to download results	7	1	2	• Six found the reliability of data difficult to assess.
Ability to e-mail results	8	2	0	• Four found the consistency of data difficult to assess.
Reliability of data	6	4	0	• One found the ability to assess if the data is current to be difficult.
Consistency of data	5	5	0	
Ability to assess if the data is current	7	2	1	
Average Percentage	62%	31%	7%	

(Note: Unsat. = unsatisfactory; Sat. = satisfactory; V.Sat. = very satisfactory)

What is your overall feeling towards this database?
6 participants rated ArchWay unsatisfactory.
2 participants rated ArchWay as satisfactory.
1 participant rated ArchWay as very satisfactory.
1 did not rate ArchWay overall.

Participants were asked to make additional comments on ArchWay to qualify their rating for their overall feeling towards the database. Below are their summarized comments:

- Looks good, well organized, searching is easy, seems to retrieve what it should.
- Has potential especially for members.
- Not user-friendly and frustrating.
- Daunting and unwieldy.
- Need to use a number of times before you understand what you can and cannot do.
- Very technical, geared more to archivists and not the general public.
- Large blocks of text in the introduction are overwhelming. This should be put with the help screens.
- Site needs some mild copy-editing.
- No ability to browse from a general search term.
- Search terms are too specific.
- Complicated and will only give desired results if the exact search terms are used.
- Could not find any results for the four common topics searched.
- Low number of records on database may cause limited searching and therefore less positive results.
- May be more useful as more records are input on the database.
- Do you need to know a 'title' to find a document?
- Cannot see more than one complete description at a time.

APPENDIX C: LETTER OF PERMISSION

SAINT MARY'S UNIVERSITY

DATE: March 31, 2002

AUTHOR: Wendy Gayle R. Bullerwell

TITLE: A Critical Examination of ArchWay – Nova Scotia's Database of
                Archival Descriptions

DEPARTMENT: Atlantic Canada Studies

DEGREE: Master of Arts

Wendy G. R. Bullerwell
Wendy G. R. Bullerwell

Wendy G. R. Bullerwell

September 17, 2001

Peter Crowell
President, Council of Nova Scotia Archives
Argyle Township Court House and Archives
Box 101
Tusket NS   B0W 3M0

Dear Mr. Crowell: *Peter*

As you are aware, I have focussed on the CNSA's ArchWay project as the topic of my
Master of Arts in Atlantic Canada Studies thesis. The thesis examines literature that
discusses online databases (both archival and library), provides a commentary on the
process of building the database, includes a walkthrough of screens captured from
ArchWay, and analyses the database using the literature and commentary.

The thesis must include images of ArchWay to illustrate how the database looks and
works. However, I need permission from the CNSA to use these images. Enclosed are
copies of the images for which I need permission to include. I can assure you that neither
these images nor the information they contain have been altered in any way and truly
represent ArchWay as it looked in May 2001.

Please consider this letter as my request to use the enclosed figures, 3-1, 3-2, 3-3, 3-4, 3-
5, 3-6, 3-7, 3-8, 3-9, 3-10, and 3-11, in my thesis. This request and your written response
will be included in the published version of my manuscript.


Thank you for your consideration,

Wendy G. R. Bullerwell
Enclosure

CNSA

24 September 2001

Wendy G. R. Bullerwell
Director, Beaton Institute
University College of Cape Breton
P.O. Box 5300
Sydney, NS B1P 6L2
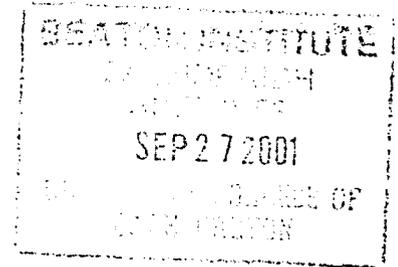
Dear Ms. Bullerwell:-

Re:- Permission to use images from the CNSA ArchWay project.

This letter is to grant formal permission for you to use the following images from ArchWay, the Council of Nova Scotia Archives' on-line database, in your Master of Arts thesis with the Atlantic Canada Studies program, Saint Mary's University:-

Figures 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10 and 3-11 from ArchWay may all be used. We trust proper citations will be provided in the thesis indicating the source for all of these images.

Should you require further images for similar use in the thesis, you have our permission to use those as well.

We wish you success in this endeavor.

Sincerely,

Peter Crowell, President
CNSA