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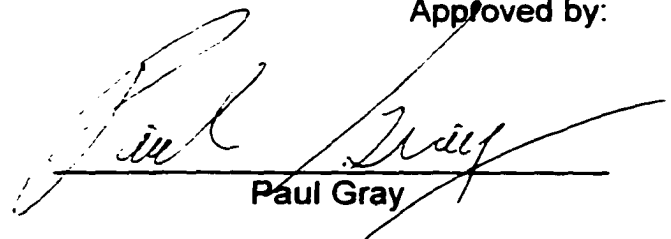
MANAGING ACADEMIC ELECTRONIC PUBLISHING

BY

ANAT HOVAV

A Dissertation submitted to the Faculty of Claremont Graduate University in partial
fulfillment of the requirements for the degree of Doctor of Philosophy in the graduate
Faculty of Information Science

Claremont, California
2000

Approved by:

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Paul Gray

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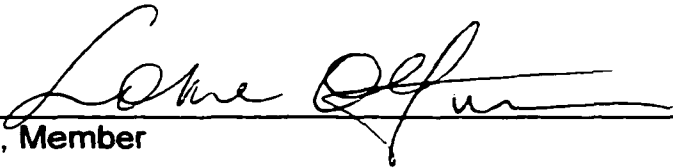
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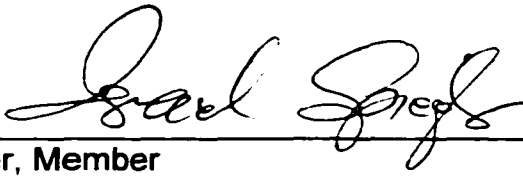
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Abstract of the Dissertation

Managing Academic Electronic Publishing

by

Anat Hovav

Claremont Graduate University: 2000

Published academic work is used both for knowledge building and dissemination, and for the distribution of rewards, prestige and funds. Current academic publishing, based on printed journals, faces major obstacles such as time lags, increasing production and distribution costs, shrinking markets, decreasing ability to publish innovative and unorthodox work, space limitations, limited accessibility, limited format and lack of interactivity. The introduction of electronic publishing offers benefits such as reduced costs and cycle time, increased in space availability, increased accessibility and interactivity. At the same time electronic publishing introduces new challenges such as protecting copyrights, controlling publication quality, maintaining long-term sustainable copies and developing an appropriate fee structure in a seemingly "free" medium.

Although some case studies describe specific efforts to introduce academic electronic journals, no integrated, comprehensive studies analyze the factors and elements that drive and influence Academic Electronic Publishing (AEP) nor are there studies that observe existing electronic journals and determine the extent to which they solve problems in traditional academic publishing. This dissertation addresses this omissions in two ways:

1. It presents a research framework for Academic Electronic Publishing that includes:

*   The technology used, which depends largely on the media

*   The economics, markets and management. Of electronic publishing in academia

*   The social issues involved in the creation, distribution and maintenance of academic electronic journals

2. It increases our understanding of AEP by focusing on:

*   The extent to which electronic journals use the technology available to them in terms of the media, mode, material and means

*   The prevailing money, market and management practices

*   How electronic journals manage the social aspect (Mannerism) of AEP

*   The commonalties that contribute to the success and penetration of electronic journals

*   How and to what extent AEP solves the problems facing traditional academic publishing

The output of the dissertation are scenarios, propositions and models that describe the relationships between electronic journals and their management practices in terms of the five issues described.

Dedication

This work is dedicated to the three most important people in my life. Without them I would never have gotten thus far.

My father, Moshe Zeelim, who miraculously survived a terminal illness and my mother, Deborah Zeelim, whose warmth and understanding kept our family united. They continuously encouraged me to follow my dreams, be strong and never give up. They were always there for me always ready and available to help and assist.

My daughter, April Hovav endured this process for a long time. She saw me through happy successes and upset barriers, through drawn-out nights by the computer, long separations, microwave dinners, and piles of undone laundry.

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CHAPTER 1

INTRODUCTION

Although there were examples of electronic publishing as early as the 1970's, electronic journals did not proliferate until the 1990's when the widespread use of the World Wide Web made publication relatively simple. The idea is that electronic means are used to obtain some or all of the benefits listed alphabetically in table 1.1.

TABLE 1.1

ANTICIPATED BENEFITS OF ELECTRONIC JOURNALS

Factor	Anticipated Benefits
Accessibility	E-journals eliminate from geographic and temporal accessibility limits because they are available 24 hours/day, 7 days a week any place.
Added space	E-journals allow researcher to include additional material such as programs, algorithms, surveys, rich case descriptions and raw data.
Cost	Electronic journals combat the increasing costs of traditional academic journals. Because e-journals are believed to cost less to produce than paper journals, some argue they should be offered to the readers for no cost.
Decrease in publication cycle time	The Internet as a delivery medium can reduce the time it takes to publish an article. Some speculate that the lag time from submission to publication can approach zero.
Innovative and unorthodox work	The relative low cost to initiate an e-journal would allow small groups of scholars to launch publication outlets that support non-traditional research and innovative work.
Interactivity	The reduced cycle time and the ability to create dynamic articles (compared to the static nature of paper articles) can increase interactivity among scholars and researchers. Academic journals can be used as a form of communications rather than an archival mechanism.
New formats	Electronic journals can use audio and video attachments to increase the richness of the information. Hyperlinks permit new structures.

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Even if all the benefits shown in table 1.1 are achieved, electronic publishing also introduces a new set of challenges that need to be resolved. Some of these challenges were known for a long time, others were discovered during the course of this work. These challenges are listed in table 1.2.

TABLE 1.2

LIST OF ANTICIPATED CHALLENGES FROM ELECTRONIC JOURNALS

Factor (in alphabetic order)	Anticipated New Challenges
Backward integration	E-journals are designed to work with current technology. Once a technology is obsolete, all articles have to be converted. For example, Internet-based e-journals using HTML, are designed to work with current browsers such as Netscape and Internet Explorer. Once these browsers are outdated or cease to exist, these articles have to be converted or they will no longer be accessible. The same argument can be made about paper journals. The difference is that the paper technology life cycle is much longer than that of digital technologies.
Citation mechanism and dynamic work	Articles can be changed after they were published based on readers' comments, new technologies and new theories. The dynamic nature of e-articles requires careful examination of current citation analysis and chain of citations. If article B cites article A and subsequently article A is modified, article B's citation is incorrect, creating a break in the chain of citations.
Copyrights	Protecting copyrights is more difficult for electronic material. Manuscripts can be copied and transported more easily.
Fee structure	Current perceptions are that Internet-based information is and should remain free. Can academic e-journals sustain themselves without charging subscription fees? If not what is the most appropriate fee structure for e-journals?
Long term sustainability	Physical copies of traditional academic articles are kept at libraries and in the Library of Congress. There is a need to establish a long-term central repository for electronic material.
Perceived quality	1. The added space allows more material to be published producing a perception of lower quality and lack of control. 2. The Internet as a whole is perceived by some as a "graffiti board". 3. The Internet is in a chaotic state and lacks reliability.

Since AEP is relatively a new phenomenon and the current research on the topic is limited (section 2.3) little systematic knowledge exists about the benefits and challenges. To date, there is little research on the implementation practices of e-journals or on the factors that hinder or assist them.

The purpose of this dissertation is to study the current state of academic electronic publishing (AEP) to

1. Investigate the extent to which the anticipated benefits listed in table 1.1 are being achieved and

2. Determine how to meet the new challenges presented in table 1.2

3. Examine the alternative future directions for e-journals

To do so, the following steps were taken:

- The development of a framework for thinking about electronic publication

- Case studies of six journals in terms of the framework

- Synthesis of the results of the case studies through the development of four alternative scenarios

- Creation of a research model and a research theory to be used as the basis for future work

1.1. The Framework

The framework, (described in chapter 3) examines academic electronic publications in terms of:

- The technology used, which depends largely on the media

- The economics of e-publishing in academia

- The markets of e-journals

- The management practices in e-publishing

- The social issues involved in the creation, distribution and maintenance of e-journals

The framework provides a basis for analyzing the results of this study.

1.2. The Case Studies

Because little data was available on either individual e-journals or on the e-journal industry as a whole, a case study approach was used to obtain an initial understanding. Six academic journals, five of them e-journals, were studied. The case studies were driven by the framework and focused on the following:

- The extent to which the available electronic features of the medium, such as unlimited space, were being used.

- The management practices in areas such as sustainability, cost management, timeliness, and quality control

- The social aspects of e-journals such as the ability to publish innovative work, access by individuals with limited technical resources, and acceptance by tenure and promotion committees,

The case studies aim to accomplish the first purpose of the dissertation: to increase our knowledge of the extent to which the anticipated benefits listed in table 1.1 are being realized.

1.3. The Scenarios

To integrate the case studies and develop insights into the future of e-journals, four scenarios were developed, ranging from the near disappearance of e-journals to their becoming ubiquitous. The scenarios are driven by the framework. They use the results of the six case studies to illustrate that the situations envisioned are grounded in current practice. Their alternate futures help in understanding under what conditions the benefits will be achieved and the challenges met.

The scenario analysis also leads to defining unintended consequences, a research model, and a process-based theory for academic e-publishing

1.4. Organization of the Dissertation

The structure of the dissertation is as follows:

- Chapter 2 describes the literature on e-journals.

- Chapters 3 and 5 describe the model and the methodology used.

- Chapters 6 through 11 present the results of the case studies.

- Chapter 12 analyzes the implications of the case studies in terms of alternative scenarios and presents a research model and a process model.

- Chapter 13 summarizes the conclusions reached.

    A glossary of terms is included as appendix J.

CHAPTER 2

LITERATURE SURVEY

2.1. Academic Publishing - Historical Overview

For thousands of years, manuscripts and letters were copied manually. This labor-intensive and time-consuming task made manuscripts a rare commodity. Manuscripts were only available to a selected group of people. The dissemination of knowledge through published work was slow. The quantity of the published work was limited and its distribution local. The few who owned manuscripts and were able to read them were so familiar with the work they had no need for indexing or search mechanisms. Manuscripts were copied manually and modified intentionally or unintentionally. Therefore, each copy of the manuscript was unique in some ways (Schaffner 1994).

Immediately after the invention of the printing press, very little changed in the way manuscripts were organized. Over time, new features appeared such as alphabetic indexing, title pages, page numbering, and citation (Schaffner 1994).

Since the invention of the printing press, small incremental changes improved publishing. The introduction of the typewriter, for example, improved the speed and the readability of manuscripts. The introduction of word processors increased the speed and quality of writing by allowing in place corrections and inserts, thus limiting the number of drafts required. Neither changed the essence of publishing.

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In 1665, Oldenburg introduced the first academic journal, the *Philosophical Transactions of the Royal Society* (London). Until then, scientific findings were disseminated through personal letters, books, and professional meetings (Schaffner 1994). At about the same time a new academic journal appeared in Paris, the *Journal Des Scavans.* (Schauder 1994). Thus, although, technology and distribution channels existed for several hundred years, the scientific community did not see a need to change its way of publishing its findings until the middle of the 17th century. By 1800 there were 700 journals and by 1900 there were close to 10,000 journals (Houghton 1975). In the 18th century academic publications assumed a new function: the registration of priority claims. Copyrights were first recorded in 1709. In the 19th century journal publications assumed an additional role; indicators of productivity and standing (Schauder 1994).

2.2. Academic Publishing - Current State

Publishing is an integral part of the academic community. Schaffner (1994) lists five functions of the academic journal:

- Building collective knowledge
- Communicating information
- Validating the quality of the information
- Distributing rewards
- Building communities

To fulfill these roles, academic publishing should be (Hovav and Gray, 1997):

1. sustainable

2. accessible

3. timely

4. reputable, and

5. high quality

For example, to build collective knowledge, academic publications should be accessible so that scholars know what knowledge exists. They should be sustainable to allow scholars to add to the research record. The usefulness of information greatly depends on the cycle time from completing the work to appearing in print. In rapidly changing fields such as computers and information systems, time lags can result in obsolescence, as new ideas become available or new developments take place. The reward system in academia is based, in part, on the *perceived quality* and the reputation of publication outlets. To ensure quality (and maintain reputation) articles undergo peer review.

Traditional academic publishing faces significant challenges:

-   *Time lags* - It sometimes takes several years from submission-to-print of an academic article. These time lags result from the cumulative effects of such legitimate functions as refereeing, editing, revision, backlogs, space limitations, and the need to combine articles into issues. Time lag issues are discussed in Zmud (1997).

-   *Cost* - The price of academic journals increases more rapidly than inflation and increasing page counts (Odlyzko 1997), yet the budgets of libraries and universities are decreasing (Kling and Covi 1995). Therefore, libraries either drop subscriptions or impose a freeze on new subscriptions (Kling and Covi 1995; Lesk 1998). As a result, new fields of research have limited traditional publication outlets. Survey results show that scholars view the price of printed journals to be too high (Schauder 1994).

- *Ability to publish* - Lotka's law[1], applied to publishing (Koenig and Harrel, 1995), shows that the distribution of published work is skewed. Very few scholars publish most of the work and most scholars publish very few articles. This result is due, in part to two phenomena that deter publication:

  - Most established journals have a focus, a theme and rules of acceptance. The ideology of the editorial board impacts the review process. Editors choose reviewers with ideology similar to their own. (Frost and Taylor 1995)

  - Academic publishing requires a long and tedious learning curve. Novice writers are less familiar with the rules and norms, and therefore are less likely to pass the initial hurdles of academic publishing. Established scholars are familiar with the system, and are often the referees, the gatekeepers, and the enactors of direction.

- *Space* - Cummings and Frost (1995) view space in academic journals as a scarce resource that needs to be managed carefully. Printed journals are limited in space, due to the escalating cost of printing, copying and distributing. Therefore, they include only the minimum information essential to understanding the work. Most articles, depending on the field, do not include original data, long questionnaires, computer programs, or complex algorithms. Graphics are kept to a minimum. In a panel discussion on case research methodologies in information systems (Willcocks 1997), authors protested that the word limit imposed by most journals prevents rich contextual descriptions of many case studies.

- *Format* - Printed work is limited by the medium used. In a case reported by Covi (1996), a molecular biologist describes the nightmare it was to publish a paper with color figures. Although finally published in color, the illustrations cannot readily be reproduced for students, since the figures lose their meaning in a black and white photocopy.

- *Distribution* - Current distribution means are costly and time consuming. Publication requires maintaining a distribution list, packaging, mailing, and re-sending when necessary. Due to high distribution cost, publishers accumulate material into issues over time and only publish periodically.

- *Access* - In many cases the access to published work is geographically and temporally limited. Academicians subscribe to one or two leading journals in their field. To access other work, they normally go to the library in their school. Interlibrary loans and indexes help but introduce delays and do not guarantee 100% coverage of relevant material. Even for the journals to which they

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[1]The distribution is of the form K/N^2 where N is the number of articles published in a lifetime by a specific author and K is the number of authors to publish N articles. Thus, for example, if K= 2000 and N=1 then $2000/1^2$ = 2000 is the number of authors to publish 1 article. For N=10, $2000/10^2$ =20, is reduced to 20 authors who published 10 articles.

subscribe, scholars tend to read only the articles relevant to their area of interest. Scholars customarily do not read complete volumes of a given journal (Berge and Collins 1996). To broaden the range of knowledge to which they have access, academicians need access to specific parts of a variety of journals and not just access to one or two journals.

- *Innovation versus Control* - Presently, academic publishing does not promote innovation and creativity (Cummings and Frost 1995; Frost and Taylor 1995; Nord 1995). The current system balances control over quality versus dissemination of knowledge and communication among scholars. To maintain high quality and stay within space limitations, gatekeepers tend to accept studies on topics that are within established paradigms. New and unorthodox work is difficult to publish and is often rejected by reviewers (Schauder 1994; Campanario 1996). Campanario found that over 10% of the most highly cited papers had difficulties in getting published. Nord (1995) suggested an increase in journal space as a solution to the ability to publish innovative and creative work. However, increased journal space runs into cost considerations.

- *Interactivity* – The lengthening time between when work is done and when it is published has shifted the role of journal articles from providing interactive communication among researchers to providing archiving and prestige mechanisms (Peek 1996). In some disciplines authors distribute preprints (Schaffner 1994; Harnad 1996) as their primary means of communication. Other disciplines use the conference paper as a tool to disseminate and communicate knowledge (Drott 1995). Harnad (1996) suggested the concepts of "*scholarly skywriting*" and an open, interactive refereeing process as ways to restore the communication function of academic journals. In scholarly skywriting, a paper is, in effect, never formally finished but continually reviewed by all its readers. Authors are able to change a manuscript at any time based on readers' comments. Thus, the work becomes a living entity rather than a static product. In Harnad's scenario, this ongoing refereeing process becomes an integral part of the formation of the article.

Anticipated Benefits and Challenges of Electronic Publishing

Electronic publishing is a potential solution to some of these challenges. The introduction of electronic journals (e-journals) is claimed to offer these benefits:

1. Reduce the cost of collecting, printing and distributing material

2. Increase the publication space

3. Reduce cycle time

4. Increase the ability to publish

5. Increase the variety of material published

6. Enable the publication of innovative and unorthodox work

7. Increase the variety of modes of publications and distribution

8. Increase accessibility

9. Increase distribution and markets

However, e-journals also present new issues and problems. For example,

1. How to control the quality of the publication?

2. Is the Internet the best medium for electronic publishing?

3. How to protect copyrights?

4. How to manage priority claims and maintain the integrity of citation chains?

5. How to maintain and manage original manuscripts?

6. What type of a fee structure is most appropriate for e-journals?

7. How to manage backward integration?

2.2.2. Unique Characteristics of Academic Electronic Publishing

Peek (1997) notes that: "Academic journals are, by their nature, a unique genre in the world of publishing." Some of the unique features of academic publishing are:

- The circulation of most academic journals is relatively small (Odlyzko 1997; Peek 1997). For example, three of the leading journals in information systems are Information Systems Research (ISR), Journal of Management Information Systems (JMIS) and the MIS Quarterly (MISQ). Their data given in the government mandated annual Statement of Ownership showed that their respective circulation in 1998 was approximately 1500 (ISR), 1000 (JMIS), and 3000 (MISQ) per issue.

- A large fraction of the work in academic publishing is done with contributed labor. Authors and reviewers rarely get paid for their work (Peek 1997). At best, editors in chief receive very small honoraria. Associate editors are not paid. Only production workers ranging from copy editors to printers to distributors are paid at going rates.

- The content for the articles is provided free of charge (Peek 1997). Authors do not receive royalties or payments for articles published in journals and in some cases (e.g., in the sciences) they or their institution are required to pay "page charges."

- Academic publishing has to concern itself with priority claims for being first to make a discovery, with journal ratings, and with perceived reputation and quality (Cronin and Overfelt 1995).

- Academic publishing, while not paying directly, offers authors rewards in prestige, advancement, and funding (Cronin and Overfelt 1995).

- These unique features merit the study of academic publishing as a singular phenomenon within the publishing industry, and its reformation during the electronic age. The following two sub-sections describe the current state of electronic publishing in academia.

2.3. Electronic Publishing in Academia

Electronic publishing has been researched since the 1970s. King and Roderer published several articles in 1978 on electronic publishing. At the New Jersey Institute of Technology Turoff (1978) and later Turoff and Hiltz (1982) described electronic publishing using *EIES*, an early electronic mail and conferencing system, modified to accommodate electronic publishing. Most early attempts to publish electronically through communication networks, magnetic media or shared databases failed. Schauder (1994) believed that the failure was caused by a lack of incentives for academicians. Other reasons may be economic issues and technological limitations.

Since the beginning of the decade, however, the number of electronic journals has increased substantially. In July 1991, the *Directory of Electronic Journals, Newsletters and Academic Discussion Lists* (Libraries 1991) published by the Association of Research Libraries listed 27 electronic journals. The same directory

listed 1093 electronic journals in May 1996 (Libraries 1996). There are also several

Internet-based directories that list e-journals in various fields such as

http://www.edoc.com/ejournal/academic.html, http://www.apnet.com/www/journal/

and http://gort.ucsd.edu/newjour/toc.html.[2] The first site lists e-journals in six

categories. Each category lists numerous URL's of individual e-journals in various

disciplines. The second site lists e-journals alphabetically or by discipline. The third

site lists over 6,000 serials and is maintained within the University of California San

Diego (UCSD). Despite the growth in the numbers of listed e-journals, there is no

uniform definition for the various e-journals in existence:

- McEldowney (1995) refers to e-journals as journals accessed through communication technology. Schauder (1994) considers projects like ADONIS,[3] which is implemented on CD-ROM to be an example of e-journals.

- Commercial publishers tend to maintain both a print version and an electronic version of articles they publish much like the ACM project, Kluwer On-line, JSTOR and Muse (Peek 1997). These versions are also referred to as electronic editions (Hitchcock, Carr et al. 1996). A few e-journal titles are purely electronic and are managed by commercial publishers such as *Online of Current Clinical Trials* (Peek 1997).

- Online e-journals may include journals distributed using shared databases, e-mail, listservs, FTP, or the World Wide Web (WWW).

- Alongside the efforts by commercial publishers and professional associations there are endeavors to create pure e-journals by individual scholars. These are typically free of charge and are free from any limitations imposed by printed counterparts.

Most studies in the literature reviewed below do not distinguish between the

various types of e-journals. There is also very little systematic research on the topic.

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[2] By March 2000, the first site no longer existed. This demonstrates the dynamic nature of e-publishing, and the problems that will arise in maintaining currency.

[3] ADONIS is part of an electronic publishing initiative developed by a consortium of well-established scientific, technical, and medical publishers (Schauder 1994).

Current research is limited to case studies, economic analyses and limited scope surveys.

2.4. Current State of AEP Research

The three main areas of research in AEP are (1) case studies (2) the economics of e-journals and (3) impact and attitudes. Figure 2.1 illustrates the three streams.

The majority of writings on scholarly electronic journals are case studies. Courtney et. al. (1997) depicted the goals and objectives in establishing a new e-journal as well as the incubation of the journal: *Foundations of Information Systems (FIS)*. Maurer and Schmaranz (1994) described the *Journal of Universal Computer Science* and the technology used in its implementation. Collins and Berge (1994) characterized *IPCT*, an Internet-based e-journal. Similar case studies can be found in Rowland, McKnight et al. (1996), and McEldowney (1995). Several articles in *Information Today* described electronic publishing efforts by publishing houses, like Kluwer ("Kluwer," Dec 1997); service providers, like ADONIS ("ADONIS," May 1997) and SweetsNet/RealPage (Dec 1997); and academic associations, like the Association for Computing Machinery (Peek 1997) and the American Chemical Society ("The American Chemical Society," Oct 1997).

Case Studies	Economics of e-journals	Attitudes and Implications

Case Studies

-Courtney et.al
-Maurer and Schmaranz
-Collins and Berge
-Rowland et. al
-Wellman and Minton

Economics of e-journals

Cost structure-
-Odlyzko
-Regier
-Gold
-Freeman

Attitudes and Implications

Impact on -
-Copyrights (Kahin)
-Refereeing (Harnad)
-Publishers (Fisher)
-University Presses (Freeman)

-Kluwer publishing
-ADONIS
-
SweetNet/RealPage
-Association of Computing Machinery

Fee structure-
-Odlyzko
-Okerson
-Hitchcock

Attitudes -
P&T-
Schauder
Berge and Collins
Cronin and Overfelt
Citation impact-
Harter

Survey of Science, technology and medical e-journals done by Hitchcock

Figure 2.1. Current research in academic electronic publishing (references are in text)

The second stream of research focuses on the economics of electronic publishing. Schauder (1994) found the cost of scholarly journals to be of major concern to researchers and faculty members. Several studies compared the cost of print journals (p-journals) versus the cost of electronic journals (e-journals). According to Odlyzko (1997) the cost of print journals vary from $.07 to $1.53 a page. Cost per article ranges between $1,000 to $8,000. Lack of competition and the unique structure of the economics of academic publishing can account for the great variance. Odlyzko estimated the cost of e-journals to be much cheaper: $300 to $1,000 per article. Regier (1997) studied the economics of electronic publishing in John Hopkins University. Regier illustrated that the cost to provide e-journals is not necessarily cheaper than the cost to provide p-journals. The cost of e-journals depends on the infrastructure, speed of access, dependability, ease of use, and the administrative and technological support required to implement them. For example the cost of the skills required to support electronic publishing is 20% per capita higher than the skills required to support print journals. A detailed discussion of the economics of e-journals is presented in section 3.2.

The third stream of research deals with attitudes and implications of e-journals. A book edited by Peek and Newby (1996) included a collection of articles on the impact of electronic publishing on various aspects of scholarly communications such as: copyrights (Kahin 1996), refereeing (Harnad 1996), preprints, and the position of stakeholders like the commercial publisher (Fisher 1996), the university press

(Freeman 1996) and the library (Okerson 1996) in academic publishing. The book also included several articles that speculated on the future of e-journals.

Berge and Collins (1996) surveyed the readers of IPCT, an electronic journal. The survey showed that readers tend to read one or two articles and not complete issues. Most readers felt that the quality of the articles in IPCT was the same as in a print journal and that tenure committees value e-journals the same as p-journals. A broader survey conducted by Schauder (1994) concentrated primarily on scholarly publishing in general and only referenced electronic publishing occasionally.

A study by Cronin and Overfelt (1995) analyzed Promotion and Tenure (P&T) guidelines from 35 institutions. The study found only one guideline with explicit mention of electronic publishing. A study by Harter (1998) looked at the impact of e-journals on scholarship and concluded that relatively few articles published electronically are being cited.

Hitchcock, Carr et al. (1996) conducted a survey that studied existing e-journals. The survey was conducted in 1995 and was limited to 83 science, technology and medicine (STM) journals. The study found that e-journals were primarily supported by commercial publishers and professional societies. Most commercial e-journals were subscription-based while most other e-journals were "free". Different disciplines use different approaches. For example, most medical e-journals are electronic only journals where as most biology e-journals are electronic editions of paper journals.

In summary, there is very little systematic research on the topic of Academic Electronic Publishing.

CHAPTER 3

AEP RESEARCH FRAMEWORK

3.1. General Framework for Electronic Publishing

Eisenhart (1994) in *Publishing in the Information Age*, describes the seven M's (factors) that drive the publishing industry. The first five of the M's are unique to publishing. The last two M's are general to all businesses. The seven M's of publishing are defined below:

- Material describes the content or the subject matter of the published work. The material may be a description of an experiment, an autobiography, a course summary, a computer program or a photograph.

- Mode is the set of symbols and language used to present the published material. Mode can be textual, visual, or aural.

- Medium is the set of tools used to store and display the published material. The material and the mode, in many cases, depend on the medium. Each type of medium may support various modes and material. For example, a paper-based medium may support a textual and some forms of visual mode whereas an audio-tape supports only an aural mode of publishing. Combinations of media are, of course, possible.

- Means describe the way published work is delivered or distributed. Publications may be distributed physically or electronically, periodically or through open channel (push or pull distribution). Distribution means also vary by temporal and spatial limitations. Published work may be distributed face-to-face (e.g., poetry reading, paper presentation) or asynchronously. The means of distribution is dependent on the medium used.

- Market includes all customers and users, direct or indirect. The market will include readers, advertisers, libraries and bookstores.

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The first five M's in Eisenhart's framework are referred to as the value added M's. The last two M's are general to all businesses:

- **Money** refers to the economics of publishing. It deals primarily with cost and revenues.

- **Management** refers to the decision-making process.

3.2. A Research Framework for Academic Electronic Publishing

3.2.1. Technology Related Factors

Figure 3.1 is an adaptation of Eisenhart's (1994) general framework to Academic Electronic Publishing (AEP). The framework takes into consideration the unique characteristics of academia as discussed in section 2.2. Examples are given for each element of the framework. The framework expands on the original seven M's and adds an eighth M, Mannerism.

The current *Material* published in academic journals is primarily research results published in the form of articles and book reviews. Space limitations and cost of production and distribution usually prevent publications of additional material such as computer programs, algorithm, statistical tools and color photos. Other work, such as literature surveys, opinion papers and tutorials are rarely published. Additional material can be incorporated via external hyperlinks (when using the Internet as a communication means) or included physically in the body of the article (when space is unrestricted).

Mannerism (Social Aspect of AEP):
-Perceived quality, accuracy, and reputation of journals
-Gate keepers, and the ability to publish new work
-International accessibility
...

Technology Related Factors

Mode:
-Text
-Video
-Audio
....

Means:
-Physical or
electronically
- Sync or Async
- Pull or push
distribution

Material:
-Research results
-Algorithms and data
- Teaching
- Program code
....

Medium:
-Paper
-CD/ROM
-Internet
...

Markets:
-Colleagues
-Tenure
committees
-Students
-General public

Money:
-Cost to publish
and distribute
-Pricing
...

Management:
-Priority claims
-Sustainability
-Timely
-Quality control
-Direction
...

Figure 3.1. Academic electronic publishing framework

The _Mode_ of publication depends on the medium. Presently, most p-journals are restricted to black and white text with limited 2-D graphics. E-journals introduce the possibility of additional modes such as color and 3-D graphics, audio, video, and images. The more the mode depends on electronic media, the more difficult it is to reproduce the publication on paper. Any copy made of a manuscript will have to use the same media if it is to convey the same information. For example, an article in an electronic journal with color graphics and video attachment will lose some of its value if duplicated through xerography to a black and white paper version. Therefore, there is an inherent policing of copyrights in the dependency of the mode and material on the media. To reduce the dependency of the mode on the medium, e-journals can offer multiple modes. For example, the _Annals of Saudi Medicine_ uses two different formats: RTF and HTML (Hitchcock, Carr et al. 1996). Other modes of electronic publishing include Postscript, ASCII, text, PDF and T_EX. Lack of standards in distribution modes creates difficulties in retrieving papers through electronic indexes and search mechanisms.

The _Medium_ used in academic publications is primarily paper. Various efforts exist to convert academic publishing to electronic-based media. The availability of the Internet and of CD-ROM introduces two potential new avenues for AEP. Each medium has its advantages and disadvantages. Electronic publishing using CD-ROM[4] requires the same distribution mechanism used for paper publishing. Issues

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[4]For simplicity, we use the term CD-ROM to describe both CD-ROM and DVD. The main difference between these media for academic publication is the maximum amount of information they hold.

must be produced, copied, packaged and shipped. For Internet-based e-journals, the cost to create one copy is the same as the cost to create hundreds or thousands of copies since distribution is demand-pull (i.e., the reader downloads the copy) rather than supply-push (printed copy arrives at the reader's address). CD-ROM publishing can take advantage of desktop publishing software capabilities, to produce the same look and feel of a paper article. Journals published on CD-ROM are perceived to have higher quality and can be incorporated into the on-line search and indexing in libraries. Because Internet-based software is in its infancy, creating high quality output is difficult; in particular for mathematical equations, tabular data, and special characters (Weibel, Miller et al. 1995; Hitchcock, Carr et al. 1996). A list of differences is given in Hovav and Gray (1997). AEP can take advantage of the benefits of each medium. E-journals can use a mixture of media. For example copies distributed to readers in developing countries with limited Internet access can be on CD-ROM. Copies distributed to individual subscribers with Internet access can be demand-pull.

Rapid changes in technology raise the issue of backward integration. E-journals are designed to work with current technology. Once the technology is obsolete, all articles will have to be converted. For example, Internet-based e-journals using HTML are designed to work with current browsers such as Netscape and Internet Explorer. Once these browsers are outdated or cease to exist, these articles will need to be converted or they will no longer be accessible. The same argument can be said about paper journals. The difference is that the paper technology life cycle is much longer than the life cycle of digital technologies.

The _Means_ of distribution depend on the media used. Paper journals can only be distributed physically and are based on supply-push. The distribution is usually periodic. CD-ROM e-journals are also distributed physically. Online e-journals are distributed electronically. The distribution mechanism of e-journals can be periodic or on demand. E-journals, distributed online, may publish each article as it is ready (such as the articles in the 26 e-journals published by the American Chemical Society) or may collect articles into issues. Online e-journals may be distributed using Listservs, e-mail, FTP, or the WWW. Multiple means of distribution are possible.

The technology used to produce and distribute e-journals is generally chosen based on the medium, mode, means and material. This technology has to allow maximum accessibility and ease of use. Although recent advances in technology allow better representation of graphs, pictures, tables and special characters, that technology may not always be available. When choosing a technology for an e-journal it is wise to consider the rule of "Highest common denominator." When choosing a technology it is also important to consider the prevailing skill sets available in most libraries (Rowland, McKnight et al. 1996).

3.2.2. Administrative Factors

The first four M's, Material, Means, Medium, and Mode are internal factors and relate primarily to the technology used. These four M's are interrelated and the medium is the driver. The second set of M's are the external factors of AEP: Market, Money (economics), Management, and Mannerism (social aspects).

The *Market* of academic publishing is essentially limited to the scholarly community. For an author, most customers are either colleagues or students in the subject discipline or related disciplines. The readers are familiar with the subject and the process by which the journal is created and distributed. Casual readers are rare. The market for academic publishing is divided into individual subscribers and libraries. As indicated previously, the market is small and shrinking, and hence cannot enjoy economies of scale except in a few rapidly growing fields.

A secondary objective of AEP, in some fields, such as in Information Systems, Management and Marketing, is to increase the marketability of academic work to practitioners. Practitioners seek relevant, accurate and timely information rather than rigor and theoretical development. The direction an e-journal adopts may determine its marketability to academia and/or practice. Direction is discussed further under Management.

Money. The economics of academic publishing is the most researched aspect of AEP. For examples see: Gold 1994; Odlyzko 1997; Peek 1997; Regier 1997. Due to the complexity and relative newness of the topic the results are vague and unspecific. The majority of the studies reflect costs of journals in the hard sciences rather than in the social sciences.

Odlyzko lists four economic factors unique to academic publishing that may impact the cost, pricing and fee structure of the scholarly publishing industry:

1. Decreasing markets. Not only is the circulation of most academic journals relatively small, the number of subscribers is decreasing at an estimated rate of about 4.5% a year (Harrison 1996). To maintain marginal profitability publishers raise subscription prices at a rate higher than inflation. The estimated price increase for North American publishers is about 10.3% a year. Out of the 10.3% increase about 2.8% account for inflation and 3% account for page increase.

The rest of the price increases covers losses of income due to reduction in subscriptions.

2. Conflicting stakeholder incentives. The incentives for authors differ from the incentives for libraries. Scholars determine the journals they want to publish in based on a journal's ratings and *perceived quality*. Their choice of journal does not depend on cost. Furthermore, scholars mandate the journals the library carry thereby creating demand. Libraries are constrained by budgets that are unrelated to scholarly grants or departmental budget.

3. Lack of price competition. Publishers take advantage of the conflicting incentives of the stakeholders. Furthermore, the price has little relation to the quality or the reputation of the journal. The revenue, to the publisher, from a 20-page article in Mathematics or Computer Science is estimated by Odlyzko (1997) to average $4,000, and to range between $1,000 to $8,000. These variances in revenue are unrelated to the quality or prestige of the journal.

4. The material published is free to the publisher. Unlike commercial authors, scholars are not paid for what they publish. In many cases the refereeing and much of the editing is done on a voluntary basis and is also free to the publisher.

The economics of AEP can be divided into two parts: The cost of publishing and the revenue from fees and charges:

- **Cost structure** - The production cycle of an academic journal involves six steps:

  Step 1. Creation of a manuscript
  Step 2. Submission
  Step 3. Refereeing
  Step 4. Editing
  Step 5. Production
  Step 6. Distribution

Universities and other research institutions absorb the costs of steps 1 through 3 regardless of the medium used to distribute the material. The costs of the first step are the same for both e-journals and p-journals. The costs of submission and refereeing may be reduced for both p-journals and e-journals if available electronic communication technology is used.

The main cost reduction for publishers is in steps 4 through 6: the copy editing, production and distribution functions. Typesetting is replaced by word processing. The copy editing function is sometimes transferred to the author, reducing publisher's cost and shifting the cost to the author and his or her respective institution.[5]

Producing copies is cheaper for e-journals. In p-journals, a fixed number of paper copies must be run through printing presses, creating a fixed production cost for each press run. In e-journals, copies are created on demand and at no incremental cost.[6]

For e-journals, the cost of distribution is shifted from the publisher to the consumer (Freeman 1996). Internet-based e-journals do not require packaging, labeling and mailing. Thus, reducing the cost of distribution to the publisher. The consumer has an increased need for Internet access and bandwidth, disk storage and printing capabilities. In many cases the cost of the infrastructure is supported by the university or research institute. For example, Princeton invested an estimated $12 Million in 10 years in its effort to create and maintain the infrastructure required to provide Internet access (Fuchs 1996). Significant portions of the infrastructure are used to provide scholars with access to electronic information.

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[5]The time it takes the author to edit the manuscript using a word processor is part of the university's cost. The university also supplies the author with the necessary infrastructure such as a computer, local area network, word processor and other software, and a printer. In some case additional secretarial hours are provided.

[6]In systemic terms, costs include communication, keeping records of subscribers, etc. However, many of these systemic costs occur for both p-journals and e-journals.

Most of the large number of studies on the economics of e-journals concentrate on the economic benefits to the publisher and ignore the increased cost of e-publishing to the consumer. Two key points need to be addressed:

- Hidden costs: Regier (1997), a director of John Hopkins University Press, studied the economics of electronic publishing at John Hopkins University and concluded that the cost to provide e-journals to students and faculty is not necessarily cheaper than p-journals. The cost of e-journals depends on the quality of the infrastructure, speed of access, dependability, ease of use and the administrative and technological support required to implement them. For example, the cost of the library skills required to support electronic publishing is 20% per capita higher than the skills required to support print journals (Regier 1997). There are three types of hidden costs:

  1. The cost to create the necessary infrastructure and support to enable access to e-journals and long term sustainability of the material. Libraries may save on real estate cost but will have major increases in the cost of technology, administration and personnel.

  2. Costs accrued by scholars involved in the production of e-journals and their respective departments. As mentioned above the cost of editing has shifted from the publisher to the author.

  3. The costs accrued by the customers. Readers downloading or reprinting articles will use their own (or departmental) material, hardware and software.

- **Fee charges of the Internet:** All the economic analyses found assume that the use of the Internet will remain essentially free, once setup and connect fees are paid. There is no guarantee that in the future the fee structure of the Internet will remain unchanged. For now, proposals made by telephone companies to charge users on a per unit time or on a bandwidth basis, failed. However, there is no guarantee that subsequent attempts will also fail.

- **Fee structure** - AEP allows new fee structures. Several publishers charge small additional fee to provide both a paper and an electronic version of the same journal. For example, IEE/INSPEC charges $810 for a paper subscription to *Electronic Letters Online* and $1,215 for a combination subscription (Anonymous, 1995). The American Mathematical Society charges 90% of the p-journal price for an e-journal version and 115% for both (Odlyzko 1996). Individual subscribers may choose to subscribe to a full year subscription or they may choose to pay per article. For example, ADONIS, a CD-ROM based journal,[7] charges

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[7]ADONIS is part of an electronic publishing initiative developed by a consortium of well-established scientific, technical, and medical publishers (Schauder 1994).

subscription plus royalty payment per article accessed on a CD-ROM (Anonymous, 1997). E-journals associated with professional societies collect subscription fees with membership dues. For example the fee for the *Communications of AIS*, a new e-journal established by the Association for Information Systems (AIS), is part of the membership fee to AIS. Okerson (1996) suggests the use of advertising to defer some of the publishing costs and thus reduce subscription fees. Hitchcock (1996) lists additional fee types: Pay-per view and author page charge. Each has its limitations:

1. *Pay-per-view* - A reader pays for each viewing or downloading of an article. This fee structure is supported by Berge and Collins (1996) findings about scholars reading habits. One limitation of this method is that it discourages readers (especially students) from reading additional manuscripts that have a price tag attached to them.

2. *Author page charge* - authors are charged per page published. Such a charging method runs the risk of creating a vanity press. Established, high-reputation journals in certain fields such as physics do require page charges. However these charges are covered by federal and other research grants. There are no incentives for established authors to pay page charges unless publishing in the journal adds to his or her reputation. Thus, for emerging e-journals, this strategy can be counterproductive.

- **Copyrights.** Despite the assumption that e-journals may relax copyright policies and thus erode sales and damage commercial publishers, Gold (1994) concluded that electronic publishing might benefit publishers. Work can remain active longer, marginally profitable work can turn beneficial[8] and cost of production and distribution can be reduced. Gold's conclusion that electronic publishing will not erode sales is based on the following three arguments:

1. Professors and students have been copying material for years, either by photocopying sections from original text or by professors creating notes and handouts summarizing written work.

2. It is to the university's benefit to support electronic publishing. The relationships between universities and publishing houses should develop to allow implementation of electronic distribution of academic work.

3. To avoid students' fraudulent reproductions, Gold offers a few measures such as site licensing and selling only paper copies to students. None of these will eliminate illegal duplication but may minimize it.

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[8]An example of such marginal work is the: "Women Writers Project" at Brown University (Manoff 1996), page 218.

Copyrights and royalty payment structures will have to be changed. For example IPCT-J (Collins and Berge 1994) does not require exclusive rights from its contributors but only first publishing rights. Authors may republish their work in other outlets as long as there is a mention that the article first appeared in IPCT-J.

The *Management* of AEP has duties beyond the preparation and distribution of the material published. To review, the main functions of academic publishing (Schaffner 1994) are to:

- build collective knowledge

- communicate information

- validate the quality of the information

- distribute rewards, and

- build scientific communities

To fulfill these roles, the management of AEP must ensure that e-journals, as well as p-journals, are (1) sustainable, (2) accessible, (3) timely, and (4) reputable (i.e., accurate and of high quality). In electronic publishing, these criteria lead to new management issues.

- *Sustainability* - An important factor of citation and collective academic knowledge is the long-term sustainability of access to manuscripts. New knowledge is based on old knowledge. Particularly, for Internet journals, permanent archives need to be established by publishers so that future scholars can retrieve referenced articles.

    And yet the question remains: "What happens to an electronic journal when the publisher goes out of business?"[9] (Odlyzko 1996, pp. 7). Hitchcock (1996) found that about half of online e-journals studied either don't have an apparent source of funding or are funded by short term grants. These are short-term funding solutions that do not guarantee the long term existence of the e-journal or the infrastructure that archives the manuscripts. Some publishers produce a

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[9]The same problem is less onerous for p-journals when libraries maintain printed copies.

paper version of the e-journal (Wellman and Milton 1998) thus limiting the multimedia capabilities of e-journals. Other publishers produce a yearly CD-ROM (Hovav and Gray 1998) as an archiving mechanism.

The issue of sustainability for electronic work extends beyond the realm of a given e-journal. Much like the Library of Congress ensures the sustainability of paper articles and books; part of the institutionalization process of electronic publishing stipulates a future establishment of a similar central service.

- *Accessibility* - Without readership, a journal is futile. Scholars choose to publish in journals with high market penetration (Schauder 1994). Therefore the availability and marketability of an e-journal is essential to its survival. Accessibility can be divided into two sub-components: (1) Journals need to be marketed and (2) readers should be able to obtain articles.

1. *Marketing* - Traditionally researchers select articles by searching secondary publications such as indexes, abstract services or full text search services (Kling and Covi 1995; Kirstein and Montasser-Kohsari 1996). Because few e-journals appear in the abstract or indexing services (Collins and Berge 1994), it is difficult for scholars to know about the existence of new e-journals. Hence, marketing is an important component of establishing an e-journal.

   The marketing of e-journals depends on the institution supporting the journal and on its customers. For example an e-journal supported by a professional association can be marketed through the association's standard channels of advertising such as membership lists. However, marketing the same journal to Tenure and Promotion (T&P) committees requires additional efforts (see Mannerisms). Commercial publishers, university presses, and professional societies usually have established marketing mechanisms that are used for p-journals that can be adapted to e-journals. These marketing mechanisms usually include an established name (brand name) and stature (Peek 1996) leading to perception of high quality and acceptance.

   Journals that are published independent of these established channels rarely have either a brand name or stature. At the time this dissertation was written, no data could be found about the marketing process that these journals use. Marketing likely will prove to be difficult for them. One approach is through the use of announcement services for e-journals such as the NEWJOUR web site (Peek 1997), http://www.apnet.com/www/journal/, http://www.edoc.com/ejournal/academic.html. Another approach is to list the e-journal Web site with one or more major search engines such as Lycos, Yahoo or Excite.

2. *Access* - Once scholars are alerted to the existence of an e-journal they should be able to obtain articles at least with the same ease that they can obtain paper-based articles. The access to an e-journal depends on the medium used. An Internet-based e-journal may support any time any place

access assuming a connection to the Internet is available. Access also depends on the software used to create, present, and distribute the material. The rule of "highest common denominator" may come into play when the issue of access is considered. Deployment of sophisticated technology in the production and distribution of the e-journals may eliminate many readers who do not have access to that technology or feel threatened by it. Using simpler technology may require eliminating innovative approaches and rejecting material such as charts, special characters, video, images and audio.

- *Timeliness* - One objective of AEP is to reduce publication cycle time. The cycle time of a published article consists of three stages:

1. writing time

2. refereeing/editing time, and

3. production time (the time to prepare the article for publication, accumulate other manuscripts for the issue, and print)

AEP can shorten the publication cycle, to an extent, if work is published when it is accepted. Many e-journals simulate p-journals by publishing issues periodically rather then individually, thus eliminating one of the advantages of electronic publishing. Other e-journals such as *Journal of Artificial Intelligence Research*, a pure e-journal, were able to reduce their cycle time to 8-9 weeks (Wellman and Milton 1998). Regardless, if the means of distribution takes advantage of the medium used or not, AEP does not guarantee reduced writing, refereeing, and editing periods and may only marginally reduce the time to delivery.

- *Reputation* -The reputation of a journal is of major significance for scholars (Schauder 1994). To succeed, e-journals need to maintain the quality and accuracy of the material published at least to the same extent that paper journals do.

E-journals have no inherent page limitations and therefore can publish more papers than p-journals. In many cases, the reputation of refereed journals is equated with low acceptance rate (Collins and Berge 1994). Editors of e-journals need to be concerned not only with the acceptance process but also with the acceptance rate.

Additional management issues include:

- *Priority claims* - In the 18th century academic publications assumed a new function: the registration of priority claims. A researcher publishing original and ingenious findings relies on the stability and long term existence of the published work to credit him or her with that innovation. Priority claims are established either through date of publication or date of submission. The stability of the

paper article ensures that ideas are recorded. Citation records are often used to measure the quality of the published work (Holsapple and Luo 1995), impacting the reputation, promotion and monetary compensation of the writer. Electronic-based articles can be copied, modified and reused with ease (Guedon 1996) thus opening the door to fraudulent priority claims. In case of electronic editions, there is a paper counterpart to ensure priority claims. Pure e-journals have to ensure that original work is credited to its rightful owner. E-journals that allow "published" articles to be modified based on reviewers' comments (see discussion on skywriting in section 2.3) have to keep track of versions to ensure proper citation mechanism.

- *Direction* - The choices available to the editorial boards of e-journals are by far greater than the choices available to the editors of p-journals. For example, editors have a variety of options in the medium chosen, the means of distribution and the modes accepted. Their primary concern is the material selected for publication. E-journals have fewer space limitations than their paper counterparts. Editors of e-journals have fewer restrictions in what they can or should publish. Editors face many dilemmas: Increased space allows higher acceptance rate. At the same time, higher acceptance rate may create a perception of lower quality journal. Editors can expand beyond papers that describe research findings to publish letters to the editor, comments on published work, survey papers, case studies and a selection of non-refereed work.

In some disciplines, secondary markets such as practitioners and teaching institutions are important. Practitioners are interested in different types of material than academic readers. The editorial board of an e-journal could distinguish its product in the marketplace by choosing to pursue both markets either within the same journal or by creating two journals, one for each market.

Mannerism refers to the social aspect of AEP. This factor deals with the "soft"

issues of AEP.

- The *perceived quality* of a journal determines its success (Schauder 1994) and the level of participation by reputable authors (Berge and Collins 1996). Regardless of the actual mechanism used to control the quality of a given e-journal, the *perceived quality* and accuracy of e-journals is considered by many to be inferior due to lack of control, chaotic state, and low standards on the Internet in general (Harnad 1996). The perception of low quality, may be reinforced by the perception that articles published electronically are rarely cited (Harter 1998). Peek (1996a) introduced a further rationale. *Perceived quality* can be measured in economic terms: how much people are willing to pay for a product and how many people are willing to pay the set price. With the increasing number of free e-journals, economic measures of *perceived quality* are no longer available (Peek 1996a). Without accepted economic measures these perceptions are difficult to manage and change. Lesk (1998) proposed to pay authors for articles in order to attract highly regarded scholars as a technique to increase the

perceived economic value. Another method to increase the *perceived quality* of an e-journal is to nominate a highly regarded editorial board (Collins and Berge 1994). A third option is to use the established credibility of commercial publishers and professional societies.

- *Tenure committees* - A significant customer of p-journals is the member of the tenure committee, an individual who demands special attention in AEP. Tenure committees are an important element in the distribution of rewards to researchers. Thus, they can be a major factor in the success of AEP (Cronin and Overfelt 1995; Berge and Collins 1996). If tenure committees consider electronic journals as inferior, they will not grant the same credit to an article in an e-journal as they would to one in a printed journal of equivalent quality (Palmer 1999). Berge and Collins (1996) found that promotion and tenure criteria are one of the primary concerns of scholars. Cronin and Overfelt (1995) studied 49 promotion and tenure committee (P&T) guidelines from 35 institutions and found only one P&T guideline had an explicit reference to electronic journals. Even when an e-journal is refereed and follows the same acceptance standards and quality requirements as printed journals, it seems to be perceived as inferior.

Scholars with greater awareness of electronic publishing have better perception of e-journals than scholars with less awareness (Palmer 1999). Therefore, editorial boards can and should devise a proactive strategy to promote their e-journal to members of tenure committees in their respective disciplines. Such strategies may include:

1. Official letters to tenure committee members announcing the existence of the e-journal and its quality control mechanism.

2. Letters of endorsement from relevant professional societies and associations

3. Formal letter of reference that published authors may present before the committee at review time. Such a letter should include the journal's formal rating and academic standing if known.

The tenure process is primarily a US phenomenon. It does not exist globally. In Europe for example, a post is guaranteed for life. There is no tenure and promotion process. Full professorship requires at least the creation of research equivalent to a doctoral thesis. Pay increases, however, depend on one's level of production and publication record.

- *Gatekeepers and the ability to publish unorthodox work* - As discussed in section 2.2 scholarly publishing has two conflicting objectives: to increase communication and to control the quality of the published material. Centralized control tends to increase the quality of a journal but hinders creativity and innovation. To maintain *perceived quality*, editors of e-journals need to exert control over the review process and cope with a less stable medium. On the positive side, the additional available space can support the publication of

innovative and creative work (Nord 1995). E-journals further the publication of quality innovative work in two ways:

1. The availability of a large amount of space allows editors to publish both traditional work and unorthodox work. The availability of additional space and the low marginal cost supports a shift in philosophy. Rather than the current philosophy that states that unless an article is superb it should be rejected at the outset, the new philosophy calls for editors to work with authors to improve promising articles to a high quality publishable work (Weber 1999).

2. The relatively low cost to establish an e-journal allows scholars, who are outside of the domain of the gatekeepers and the dominant coalition (Frost and Taylor 1995) of a discipline, to initiate a publication outlet that will accept new ideals and values. The current trend of innovative, independently managed e-journals need to be studies further. No data were found about the source of funding, rate of success, survival rate and quality of these journals.

• *International access* - We cannot assume that the electronic publishing revolution is global (Jacobson 1994). Many countries lag in the implementation of a telecommunications infrastructure and do not support full Internet access. Transforming p-journals into electronic forms with multimedia qualities can cause accessibility difficulties in underdeveloped nations. At the same time, e-journals may have a positive impact on lagging countries, if their technological limitations are considered in creating the e-journal. For example, e-journals can ensure faster delivery of manuscripts (both when submitted and for review) to and from countries where overseas postal service is slow. To accommodate lagging countries, e-journals can use such strategies as:

1. Multiple formats (plain text, word processing, Acrobat PDF format with viewer supplied)

2. Putting multimedia, audio and other advanced formats into appendices

3. Creating short forms of the articles with, perhaps, the ability to request postal delivery of specific articles for a fee. These short forms are especially needed for megabyte or larger articles in places where only slow modems are available.

4. Including text descriptions of charts, graphs and photographs

CHAPTER 4

RESEARCH DESIGN

4.1. Objectives

As discussed in sections 2 and 3, traditional academic publishing faces major challenges such as time lags, increasing production and distribution costs, shrinking markets, decreasing ability to publish innovative and unorthodox work, space limitations, limited accessibility, limited format and lack of interactivity. Electronic publishing is proposed by many as a potential solution to some of these challenges. The introduction of electronic publishing offers benefits such as reduced costs and cycle time, increases in space availability, increased accessibility and increased interactivity. At the same time electronic publishing introduces a new set of challenges. These new challenges need to be addressed and managed by the editorial boards of e-journals. The study poses two main questions:

1. How do editorial boards manage academic e-journals?

2. What factors lead to the success and penetration of academic e-journals?

   These general questions lead to more specific questions:

1. To what extent should electronic journals utilize the technology available to them in terms of the Media, Mode, Material and Means used (e.g., multimedia, added available space, any-time-any-place access).

2. What are the prevailing Management, Money and Market practices in areas such as marketing, direction, sustainability, timeliness and accessibility?

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3. How do e-journals manage the social aspects (Mannerism) of academic electronic publishing such as quality control and the *perceived quality* of e-journals, acceptance by Tenure and Promotion committees, access to individuals with limited technical capabilities and the ability to publish innovative work?

4. What are some of the common factors that contribute to the success and penetration of e-journals in light of the challenges discussed in section 2.2.?

5. To what extent does AEP solve the problems facing traditional academic publishing such as:

    *   Time lags

    *   Increasing costs

    *   Limited format

    *   Distribution

    *   Access

    *   Ability to publish

    *   Innovation vs. Control

    *   Interactivity

The study:

1. Develops a set of scenarios that describe the future success and penetration of e-journals. The scenarios lead to a set of propositions and a research model.

2. Verifies the proposed framework (see section 3.2)

To do so, the dissertation uses a case study approach followed by scenario building techniques.

4.2. The Case Study

Yin (1994) suggests that exploratory studies that try to answer the questions: "how" something is done or "why" something is done should use case methodology. Electronic publishing in academia is a relatively new phenomenon and there is no

research on the overall implementation of electronic journals to date, the factors that hinder or assist in the execution of electronic journals or how successful academic electronic publishing is in solving the challenges facing traditional academic publishing. Hence, the exploratory nature of the study calls for the use of a case study methodology rather than a survey or an experiment. Eisenhardt (1989) suggests that case studies may be used to build theories when little is known about a phenomenon, or in the early stages of research on a topic.

The methodology selected for the study is a: Multiple case design with a single unit of analysis for each case, also called type 3 case study methodology (Yin 1984). Multiple case design has several advantages:

1.   Multiple case design provides more compelling evidence and hence

2.   It is more robust.

At the same time multiple case design:

1.   Cannot be used with rare and unique cases

2.   Requires ample resources

3.   Is time consuming

CHAPTER 5

METHODOLOGY

This section describes the process, sample and data collection used.

5.1. The Process

Eisenhardt (1989) describes the process of building theory using case study research. Table 5.1 uses the eight steps introduced by Eisenhardt to describe the proposed activities of the study:

TABLE 5.1

THE PROPOSED PROCESS OF THE STUDY (ADAPTED FROM EISENHARDT 1989)

Step	Activity (as depicted by Eisenhardt)	Activity as implemented in the study
Getting started	Definition of research question. A priori constructs	Management practices of e-journals, using the 8-M framework
Selecting cases	Specified population. Recommended between 4 to 10 cases	5 e-journals and 1 p-journal with electronic presence for a total of 6 journals
Crafting instrument	Multiple data collection methods	Check list describing the multiple data collection process is available in appendix I
Entering the field	Data collection	Electronic questionnaire, follow-up phone interviews, documentation and charter, examination of web site, an interview with an author(s)
Analyzing the data	Within Between	Analyze each case based on the 8-M framework Analyze the similarities and differences among the six e-journals
Shaping propositions	Search evidence for "why"	Use scenario building techniques
Enfolding literature	Compare to current literature	Chapter 2
Reaching closure		Verify framework. A research model and propositions. Process theory

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5.2. Sample

The term Academic Electronic Publishing (AEP) in this dissertation refers to academic journals using computer-based networks (such as the Internet or private networks) as their primary distribution channel. These e-journals may have additional means of distribution (such as a yearly CD-ROM) or use multiple media (such as both electronic and paper editions).

Hitchock et. al. (1997) found that e-journals are sponsored and managed by three main sources:

1. Commercial publishers

2. Professional societies and academic associations, and

3. Individual entities (departments, groups of researchers) and entrepreneurial endeavors

The study found a fourth source:

4. Governmental program

Commercial publishers and professional societies have been in the academic publishing industry for decades (section 2.1). Therefore they have more experience in managing academic journals than individual entities. They also have established distribution channels, marketing mechanisms and quality control tools. However, entrepreneurial e-journals are more innovative and open to new ideas.

Some factors will be common to all e-journals and others will differ (see figure 5.1). For example, the need for continual financial support should be common to all e-journals. However, the extent to which an e-journal resolves the interactivity problem of traditional academic publishing might vary among the four sources. Table

5.2 lists the six e-journals selected, their affiliation and any special characteristics each might have.
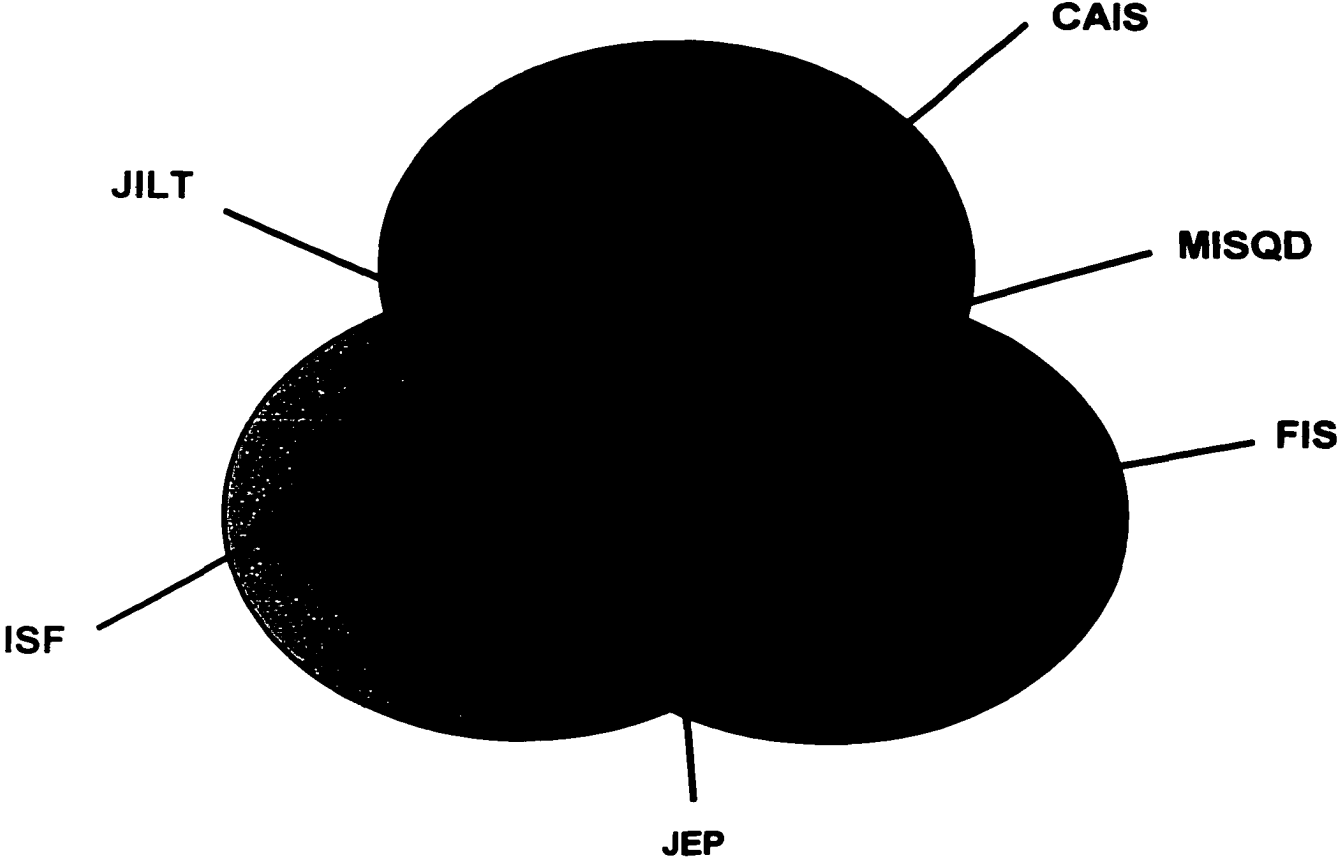
Figure 5.1. Electronic journal's sponsorship

TABLE 5.2

A LIST OF THE SIX E-JOURNALS STUDIED AND THEIR AFFILIATIONS

Journal Name	Chapter	Sources	
CAIS	6	Professional society	Association for Information Systems
MISQ Discovery	7	Professional society + entrepreneurial	ISWorld[10] can be considered a virtual professional society
FIS	8	Entrepreneurial	
JEP	9	Commercial publisher	Sponsored by UM Press but managed by an entrepreneur
JILT	10	Governmental program	The Electronic Library Program of the Joint IS Committee in the UK
ISF	11	Commercial publisher	A paper journal with electronic presence

Table 5.3 summarizes the results of the dissertation. The table includes a summary of the six cases studied based on the 8-M framework. Detailed data are presented in Chapters 6 through 11. A reader interested in reviewing a given casein detail should refer to the corresponding chapter as listed in Table 5.2. Readers interested only in the interpretation of the results can skip directly to Chapter 12.

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[10] ISWorld is a listserv that researches approximately 2000 IS academics and professionals. It is a standard medium used for IS related notifications for people in the field.

TABLE 5.3

SUMMARY OF RESULTS

Factor	CAIS	MISQD	FIS	JEP	JILT	ISF
Material	Non traditional work	Research papers	Philosophical work	Mixed: research and practice	Mixed: research and practice	Academic and industry research work
Medium	Internet + CD-ROM	Internet	Internet	Internet	Internet	Co-existence
Means of distribution	Push (notices) + pull	Pull	Pull	Push (notices) + pull	Pull	Push
Mode (Audio, video)	All accepted	Advanced modes	Text + images	Text + images + hyperlinks	Text + images + hyperlinks	Text + images
Market	Membership of AIS	ISWorld + unknown	Specialized market	Library sciences	IT law, international	Unknown
Money:						
- Cost to produce e-journals	Minimal, voluntary	Volunteer work + $1700 a year	Minimal, Voluntary	Volunteer work + $1100 a year	$25,000 a year	$200,000 per year, but not an e-journal
- Fees charged for e-journals	Bundled with membership fees. Institutional - $95/ year	Free	Free	Free	Free	Individual - $60 Institutional - $308 - $360
Management						
- Direction	Content innovation in IS	Pushing the technological envelope	Niche, focused	Niche, focused	High quality e-journal	Niche, focused
- Sustainability	CD-ROM	No provisions	Paper copies	No provisions	No provisions	Library of Congress
- Timeliness	Average = 4 months	1 year	1 year	Average = 2 months	Average = 2 months	1 year –paper 6 months - online
- Reputation	Via AIS	Via MISQ	Via editors	Via UM Press	Via Electronic Libraries Program	Via Kluwer
- Marketability	Via AIS	ISWorld, MISQ	A specialized community, conferences	UM press and member list	Library program, conferences, cyberspace	Via Kluwer

Table 5.3 – *continued*

- Accessibility	Limited to AIS members	Limited by technology	Global, any time any place	Global, any time any place	Global, any time any place	Limited to subscribers only
- Copyrights	AIS	Remain with the author	Remain with the author	Remain with the author	Remain with the author[11]	Owned by Kluwer
- Citation analysis	Version control, using year, vol., number	Via MISQ	Static articles, using URL	Static articles, using URL	Static articles, using URL	Traditional
Mannerism:						
- Perceived quality	Via AIS	Via MISQ	Difficult to manage, no strong affiliations	UM Press, topic itself	Via Electronic Libraries Program	Managed via Kluwer
- Look & Feel	Varies by articles	Innovative	Paper like	Paper like	Paper like	Paper
- Gatekeepers	Allows to bypass	Same as MISQ	Specialized, committed to the topic	Specialized, committed to the topic	No information available	Multi-disciplinary. Industry and academic
- T&P	Active campaign	Based on MISQ	No active campaign, less of a concern	No active campaign, less of a concern	No active campaign. No tenure issue in Europe	Managed via Kluwer
- Globalization	CD-ROM; Place complex modes in appendices	No provisions taken	Increases due to low electronicity	Increases due to low electronicity	Increasing (based on readership survey)	Increase for universities that can afford the online access

[11]JILT authors have partial copyrights. They are allowed to republish their work in paper journals but are not allowed to post their work in any other electronic form (such as another e-journal or a Web site).

5.3. Data Collection

Despite Yin's assertion that "... the conduct of a multiple-case study can require extensive resources and time beyond the means of a single student or independent research investigator" (Yin 1984, p. 48), the need for replication both within a category and across categories calls for a multiple-case research design. Therefore the scope and the extent of the data collection had to be carefully selected and managed.

Within each case the editor is the primary subject. If needed the editor referred some of the questions to associate editors, secretarial staff or technical staff. In addition, for the purpose of triangulation (Yin 1984; Eisenhardt 1989) each e-journal's web site, mission statements and other support documents were examined.

The following was the protocol for data collection:

1. Each respondent was contacted and asked to participate in the study.

2. Upon respondent agreement to participate, an initial set of questions was sent to the editor electronically. The initial set includes 41 questions some are close ended and some are open-ended. The questions are found in appendix A.

3. A study of each e-journal's mission statement, web-site, and any publicly available documents

4. A follow-up phone interview was conducted in order to:

    • clarify answers given to the initial electronic questionnaire

    • probe into the reasons for some of the practices stated and

    • request/collect additional private documents.

5. If necessary follow up telephone interviews were conducted with additional staff such as an associate editors, secretarial staff or technical staff.

6. Interviews of additional persons involved with the e-journal such as authors. The purpose of interviewing an author is to clarify the following:

- Turn around time (from author's perspective)

- Level of editing done

- Advantages or disadvantages to the author

- Refereeing process

5.4. Data Analysis

The analysis of data in case research is not an isolated task, rather it is done as an integral part of the data collection (Yin 1984). The interaction between data collection and the analysis of the data can produce new insights and thus new questions.

The first step of the analysis is a "within" analysis whereby each case is analyzed separately based on the 8-M framework of chapter 3.

The second step is the "between" analysis of the cases. The final analysis is done using scenario building techniques. The dissertation uses scenario-building techniques rather than a more static technique because:

1. AEP is in its initial stages. Its future course depends on many factors.

2. The technology that supports AEP changes rapidly.

3. The direction of AEP depends on a set of alternative economic, social and policy choices. A static model assumes an implementation of a particular choice.

5.5. Conceptual Foundations of Scenarios

Scenarios are a way of communicating about the future. They are often used to describe a world in which certain elements are unknown or might develop in various

directions. Scenarios are not arbitrary. Rather, they are carefully worked out to reflect the logical implications of assumptions and forecasts about what the future will be like.

Scenarios typically describe future events and trends. They look at issues to be resolved, at time relations, interactions, and logical consequences. Scenarios are most powerful when several are used together to present alternative views of the future as seen from the present because humans and organizations can take actions that influence the future. Thus, scenarios can be used as a policy analysis tool. If, for example, a scenario indicates that without long term sustainability of e-material, the future of e-journals is questionable, the National Science Foundation may champion an electronic version of the Library of Congress.

5.5.1. Principles of Scenarios

Scenarios must adhere to three principles. That is, they must be:

1. Possible

2. Plausible

3. Internally consistent

Possible implies that there are no barriers to the events described occurring. Thus, for example, you can't require traveling at speeds faster than light. Plausible implies that the reader of the scenario would believe that the events could occur. If a scenario, for example, calls for banning all Internet access in Universities, it is possible but not plausible. Internal consistency, as its name implies, requires that all parts of the scenario are consistent with one another. For example, a replacement of

all p-journals by e-journals is inconsistent with a decrease in the economic viability of e-journals.

5.5.2. Approaches to Scenario Writing

Scenarios for a given future date, can be written from three points of view:

1. The events on some day in the future (e.g., a snapshot in the year 2010). Such a scenario would read like a newspaper written under the assumption that everyone knows what happened previously. The scenario does not describe the intervening events.

2. A history written in the future that describes the series of events that occurred between now and then and that led to the future situation.

3. A forecast that starts in the present and shows the evolutionary path that results from the assumptions in the scenario space. This approach (followed in this dissertation) leads the reader into the future rather than approach 2, which works backwards from the end point.

5.5.3. Scenario Space

Scenarios are embedded in a scenario space. That is, a number of independent variables take on different values. Each combination of values creates a different scenario. For example, in forecasting the economy, a three-dimensional scenario space might have as its variables the price index, the trade balance, and labor productivity. If we assume that each variable can take on only two values, then we have 8 combinations of the three variables. One scenario might be a low price index, a true balance of trade, and high productivity and another would be high prices, trade deficit, and low productivity. In creating a set of scenarios it is not necessary to present all combinations. Rather, implausible or impossible combinations can be excluded and only representative scenarios deemed by their author as important can be presented. In general, it is considered appropriate to present an even number of

scenarios (e.g., 2 or 4); an odd number leads to selecting the middle scenario as most likely and to avoiding consideration of the others.

In working with scenarios, recognize that the stakeholders involved and the trends and uncertainties that affect the scenario space should be identified. Where the outcome for a particular parameter is uncertain, using scenarios helps in understanding the implications of different outcomes and, in some cases, in making decisions as to which outcome to encourage through research and development, political lobbying, or other methods.

5.5.4. Limitations of Scenarios

A major limitation is in the nature of scenarios. Each scenario takes considerable time to create. Hence only a few can be generated. Furthermore, human beings can only cope with a few scenarios at a time. There is a tendency, therefore, to create pure scenarios, that is scenarios in which everything is positive, or everything is negative, or everything is average. Unfortunately, the real world is not like this. A mix of outcomes will occur. Going too much in one direction tends to create scenarios that are dismissed, thereby challenging a key criterion: plausibility.

CHAPTER 6

CASE I - THE COMMUNICATIONS OF AIS
http://cais.isworld.org/

6.1. Data Collection

Data for the case of CAIS was collected using the following:

- An initial set of questions (see appendix A) is answered by the editor-in-chief

- A follow-up interview with the editor in chief

- An interview with the technical staff responsible for the actual implementation of the web site

- An interview (administered via e-mail and phone) with four authors. Three authors are from academia and one from industry.

- An examination of the journal's home page, mission statement and articles posted

- An examination of posted articles as of May 1999

- An examination of other support documents such as: acceptance letters, review form and copyrights form

A general checklist is found in appendix I.

6.2. Introduction

The Communications of the Association for Information Systems (CAIS) is a pure electronic journal that began publication in January 1999. It is sponsored by the Association for Information Systems (AIS), a society that began operations in 1994.

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When the Council of AIS considered creating journals for its membership, they concluded that, as an information systems professional organization, they should use the technology in which its members are expert. The council also saw the opportunity for creating a journal that expands beyond the limitations inherent in p-journals. The publishing committee recommended a journal, which would cover areas not generally dealt with by conventional research journals. The Council accepted the recommendation.

In designing CAIS, the goal was to create a journal that served different needs than those of a conventional research journal. Previously the available journals in the field were all research journals that primarily serve researchers within the field. Yet, almost every member of AIS has other responsibilities such as teaching and consulting. For many members, research is secondary. There is also an increased need to keep up with rapidly changing technologies. No journal existed that met these needs. Thus, the fundamental idea of CAIS is to provide a journal that:

- Serves the needs of members beyond the reporting of specific and specialized research results

- Educates its readers about the broad developments in the field

- Facilitate communications among the members of AIS

- Creates value added by using e-features afforded by information technology such as hyperlinks, color graphics, multimedia, and the reduced restrictions on article length

These characteristics are examined in terms of the eight-M framework.

6.3. Material

The focus of CAIS is to provide a quality, reputable outlet for articles that are generally not published in p-journals. Thus, the journal presents tutorials, case studies, teaching notes and opinion papers. Table 6.1 shows the titles, authors, and category of the first 10 papers published. There are no space limitations, which gives authors the opportunity to include original data, instruments used, and rich case descriptions. An author of an opinion paper, stated that one of the reasons for choosing CAIS as an outlet was the ability to publish "interesting ideas". A second reason was the available space. The paper proposes a complex and general theory of Information Systems and could not fit within the strict 15-20 page limit imposed by most paper journals.

TABLE 6.1

INITIAL PAPERS PUBLISHED BY CAIS

	Title	Author(s)	# of pages	Type
1	Network support for Mobile Computing	Varshney	19	Tutorial
2	Designing an Electronic Commerce Curriculum	McCubbrey	20	Education
3	Adding Value to Key Issue Research Through Q Sorts and Interpretive Structured Modeling	Morgado, Reinhard, and R. Watson	17	Research Methods
4	Business Information Visualization	Tegarden	26	Tutorial
5	The State of the IS Field	Lucas	5	Opinion
6	Welcome to The Communications of AIS	Gray	5	Editorial
7	Knowledge Management Systems: Emerging Views and Practices from the Field	Alavi and Leidner	26	Knowledge Management
8	Information Technology, Process Reengineering And Performance Measurement: A Balanced Scorecard Analysis Of Compaq Computer Corporation	Wright et. al.	47	Case Study
9	Using ERP systems in IS Education	Watson and Schneider	31	Education
10	Multimedia Networks: Fundamentals and Future Directions	Sharda	26	Tutorial

6.4. Mode

Authors can use color, audio, or video to make their points. One of the first ten papers (paper 4 by Tegarden), for example, makes extensive use of color and graphics in a tutorial on visualization. Although the first 10 papers do not include audio or video, there are no limitations that would exclude these modes.

Multimedia increases storage and transmission requirements significantly (see section 6.9.3 for a detailed discussion). To make multimedia papers accessible to readers with limited Internet capabilities, authors are currently asked to reserve highly complex images, audio, and video inserts to the appendices. Articles are offered in both PDF and HTML formats.

6.5. Medium

Articles are published electronically on the Internet, and in an annual CD-ROM containing the entire year's material. The CD-ROM affords multimedia capabilities to members with limited Internet access. It is also used as a permanent archiving mechanism. The creation of the yearly CD-ROM also has implications for the *perceived quality* of the journal (see section 6.10).

6.6. Means

A permanent server archives published articles. Subscribers receive articles over the Internet for downloading and/or printing. Articles are made available on the server (i.e., published) as soon as they are ready. Approximately once a month, subscribers are notified via e-mail about newly published articles. The assumption is that readers would ignore individual offerings if these came a few days apart. The

notification message includes a commentary by the editor describing each article and its importance (appendix C.7).

6.7. Market

The primary market is the membership of the Association for Information Systems (AIS). Secondary markets are IS practitioners and students. Universities have the option of obtaining a site license. Current membership includes over 2000 individual subscribers (both AIS members and non-members) and approximately 15 institutional subscribers from four continents. The current circulation of CAIS is high relative to a typical new journal. According to Odlyzko (1996), commercial publishers regard 300 paid subscriptions as a success for a new journal. Therefore, authors can expect comparable exposure when publishing in CAIS as they would get when publishing in other major IS journals. Two authors selected CAIS as an outlet for their article due to its large market. However, another author was concerned that CAIS does not have enough market yet and is only known within the AIS membership.

6.8. Money

CAIS is a subscription-based e-journal. In the vernacular of professional associations, CAIS is "bundled" with dues. That is, members of AIS receive the journal as part of their annual membership fee. Non-members pay a yearly subscription fee of $40 that is close to the annual dues. Site licenses are sold to Universities at a nominal rate of $95 a year, that allow anyone (particularly students) at that institution to access the journal from the university's computer.

Currently, most of the work is done on a voluntary basis. The editor spends about 10-12 hours per article. This is not billable time. The cost is absorbed by the institution (university) employing the editor and by the editor.[12] The cost of printing manuscripts, phone calls, faxes and temporary disk storage is also carried by the editor's university and the editor. In addition, a publishing staff at another university spends an .5 to 1 hour per article and about .5 to 1 hour a day on administrative activities. Most of the system was built and is maintained by students.

Baylor University. Currently, the load (hit rate) is relatively low and does not require more than a basic NT server. The estimated cost of the server (if AIS had to pay for it) is $25-$75 a month.

CAIS, implemented as an e-journal, saves on initial start-up costs, printing cost, distribution cost and storage cost. The cost to maintain the journal is absorbed by several institutions. There is also some cost shifting to the reader. Readers require high-speed communications capabilities, storage (in case they want to download an article) and printing capabilities. For faculty, the university usually absorbs the shifted cost. Students may have to pay these costs out of pocket. For example, at my institution, a student pays 5 cents a page for laser printing. Thus, a 50-page article costs $2.50 a copy, above the subscription/membership fees.

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[12]There is a loss of opportunity time to the editor. Any editor's time spent on an e-journal detracts the editor from other duties such as research, community work and teaching. The university and the editor carry an unpaid load. The return is in the form of prestige and recognition. However, this is not unique to e-journals. The same can be said for editors of p-journals.

6.9. Management

6.9.1. Sustainability

CAIS, being a publication of a professional society, is a journal of record. Thus, it maintains an archive of what has been published and, as described under Medium (above), creates an annual CD-ROM. A paper archive is also maintained at the AIS business office.

6.9.2. Marketability

The journal is marketed through the AIS business office. With a membership of over two thousands, the journal has a built-in circulation. However, like all new journals, it will be two years before it is indexed or abstracted by national and international services.

CAIS is not intended for the casual Internet surfer. It can not be easily found using Internet-based search agents. Two searches were conducted using the following three agents: Excite, Infosys and Yahoo. The first search looking for the acronym "CAIS" resulted in a variety of homepages of companies with similar acronyms (such as: The Center for Advanced Information Systems or Canadian Association of Independent Schools). The second search looking for "communications of AIS" resulted in one hit. Excite found a page in ISWorld announcing the initiation of JAIS (Journal of AIS) and CAIS. There is a direct link from the announcement page to the CAIS homepage.

Similarly, CAIS is not directly advertised on the ISWorld home page. There is a link from ISWorld to the AIS home page from there a reader can link to CAIS.

6.9.3. Accessibility

Accessibility in many cases depends on the technology used. There is a trade off between exploiting the full range of technological capabilities and accessibility. To increase the accessibility to the journal's articles, CAIS adopted the multiple publication approach of two formats, an archive, and the use of CD-ROM. By providing an Acrobat reader free of charge with the PDF format, articles become accessible to almost all of the recent levels of PC's.

For example, using a 28.8Kbps modem with a 486 DX2-66, downloading an article with limited multimedia (Article 7 in volume 1) took a few seconds for the HTML version and approximately 2 minutes for the PDF version. An article with extensive multimedia (Article 4 in volume 1) took a few seconds to down load the HTML version and about 6 minutes to download the PDF version. By providing both HTML and PDF versions CAIS allows easy access to articles even when the technology used is relatively slow.

6.9.4. Timeliness

Articles are published when ready thus eliminating the time it takes to collect enough material for an issue. There is also no space limitation and no backlog of accepted articles. The complete process is described in appendix C. An interviewed author mentioned that: "The process of publishing was very convenient." The only problematic portion was the conversion of the WORD file to HTML and PDF, which took about 5 quick iterations. Other authors stated that using electronic

communication reduced the cycle time. All[13] of the communication among the stakeholders is done electronically, reducing delays. The mean cycle time from submission to publication is approximately 4 months. The shortest cycle time as of now is 28 days from the date the article was received to the day it was published. The CAIS commitment to quick publication is cited as a major reason for choosing it as a publication outlet.

Most authors interviewed agreed that the time spent in preparing the article for publishing was either comparable to that of a paper article or less. In general, they all agree that CAIS provides a shorter cycle time. As stated by one author, the availability of electronic communication speeds up the process.

6.9.5. Priority Claims

The date an article is received and the date the article is posted on the Internet are shown to assure priority claims. Articles can be modified through version control. Any modification to an article after the original date of publication creates a new version rather than overlaying the existing work. A disclaimer notes that URL references are valid as of the date of publication but are not guaranteed thereafter (appendix C5).

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[13]Only the copyright release, a legal document, is mailed and then only from the author to the editor.

6.9.6. Managing Reputation

Being an official publication of a professional society, CAIS established its initial reputation. An elite editorial board was established, consisting of 40 leading academics in information systems from throughout the world (for a complete list, see appendix C6). The associate editors are asked to obtain an article a year for consideration by the journal. One author, who is also an editor for CAIS, stated that as an editor and a member of AIS, he felt the obligation to support CAIS. In addition, articles are solicited from well-established and highly reputable authors. The initial articles published in CAIS include papers by senior, prominent scholars. This strategy is designed to signal to potential authors (particularly junior and middle level faculty) that CAIS is a place where people with top reputation publish. The ratio between senior and junior faculty among CAIS authors is, for the first 10 articles, 8 out of 26 or 31%. In some cases there is one senior author and one or more junior co-authors. This ratio indicates to junior faculty that senior members of the IS discipline publish in CAIS. It also indicates that junior faculty are not reluctant to publish in an electronic journal. A junior author indicated that he was not concerned with the fact that CAIS was an electronic journal.

6.9.7. Managing the Direction

CAIS was designed to cover a broader range of issues than the conventional journal. It is concerned with educating its readers about what is going on in the field and facilitating communication among members of AIS. To this end, the editors solicit articles that summarize emerging areas through tutorials and literature surveys. It presents new developments in teaching (for example, in electronic

commerce and in the use of ERP). Almost none of these papers fit into the research journal paradigm. Yet they respond to the needs of the AIS membership.

6.10. Mannerism

Mannerism refers to the social aspects of academic publishing. This section deals with the "soft" issues of CAIS.

6.10.1. Look and Feel

To maintain the same look and feel of a p-journal, CAIS follows a general outline of a traditional journal. Articles are referenced by year, article and version number rather than using a URL. Authors must format articles based on strict specifications to maintain the look and feel of a p-journal. For an example of AIS style guidelines see appendix C2. In addition the availability of articles on CD-ROM increases the feel and look of a p-journal. This look and feel is important. As indicated by one author, his institution accepts e-journals equally to p-journals as long as a paper copy can be provided when necessary.

6.10.2. Perceived Quality

CAIS' *perceived quality* is managed in several ways:

- By managing the journal's over-all reputation
- By ensuring a sustainable, long term existence of the journal itself and of its content
- By maintaining the look and feel of a paper journal (see above)
- CAIS subscription is part of the membership in AIS. Thus ensuring large exposure within the IS field. At the same time CAIS is not easily accessible by casual Internet surfers.

- The production of a yearly CD-ROM increases the *perceived quality* of the journal because the CD-ROM medium is perceived as more stable and controlled than the Internet.

6.10.3. Interactivity

One of the roles of a professional society is to facilitate communications, and free flow of information among its members. As a communication tool, CAIS has to implement interactivity, free flow of information and originality. To increase interactivity the editorial board of CAIS:

- Reduce the cycle time of publication from the traditional 2-3 years to about 1-4 months. Thus, the material published is relatively new and relevant.

- CAIS solicits comments on the articles published. These comments are published. CAIS allocates space for "electronic discussions" related to the material published in the articles. Thus far, authors indicated that they received comments and feedback on the articles published in CAIS.

6.10.4. Tenure Committees

CAIS adopted the following measures to increase acceptance by tenure committees:

- A continuing campaign of letters by the President of AIS has been undertaken to inform tenure committees and deans in business schools, information systems departments and schools, and computer science departments of the journal and its quality control measures. For an example letter, see appendix C3.

- Look and feel of a paper journal. By using PDF and CD-ROM publication, articles may be printed and submitted to tenure committees' review in a format resembling paper articles.

- The traditional citation mechanism used in CAIS supports the standard citation analysis used by tenure committees.

- The high ratio of junior faculty publications (69%) indicates that the IS membership believes that highly reputable journals (electronic or print) count for tenure and promotion.

- Neither junior nor senior authors were concerned with the fact that CAIS was an e-journal. They stated that e-journals are accepted equally as long as they are peer reviewed (or in one case as long as a print copy can be made available).

6.10.5. Gatekeepers

IS is a rapidly changing field. It can be well served by publications that provide quality, yet unorthodox work that is innovative and in line with the rapid changes of the field. CAIS's vision is to create a place for non-traditional papers. The relatively low cost of additional space in the journal affords CAIS the ability to publish unorthodox work alongside more traditional work.

To overcome the cautiousness of referees about non-traditional work, authors may request that their work be reviewed only by the editors. If an author requests full refereeing, CAIS honors the request. In the future the journal plans to allow anonymous, electronic conversation between the authors and the referees. The idea of this electronic conversation is to increase the understanding and communication between the gatekeepers and authors.

6.10.6. Global Access

CAIS supports access throughout the world, even where there is limited or no Internet capability, in two ways:

- by making a CD-ROM available annually

- by locating high bandwidth material (such as very complex images, voice and video) in the last appendix

6.11. Summary

In summary, when talking to several authors, they stated that they chose CAIS as an outlet for their papers due to the combination of four main reasons:

- Speed of publication

- Accessibility and exposure -- the entire AIS membership has access to CAIS. The editor simply alerted colleagues over e-mail to the existence of the article.

- CAIS has developed a good reputation.

- Unlimited space available

Senior authors are not concerned about tenure or adding another line to their resume. A more junior author indicated that e-journals are equally accepted to p-journals in his university.

One author stated that he does not see much evidence of discussion and interactivity despite the fact that CAIS solicited comments about the article and despite the fact that the topic is of interest to the entire IS community. That author believes that for now more discussion will ensue in conferences and in classroom settings rather than via CAIS. Another author, however, stated that CAIS is a good way to elicit feedback quickly.

An author from industry stated that: " ...In general, very positively, since we are trying to practice what we preach – that e-business is the direction for the future..."

And a final comment from an author: "I like to think it saves trees...." With the increase in pro-environmental movements in US society, saving trees might be as much of a driving force as cost reduction or timeliness.

CHAPTER 7

CASE 2: MISQ Discovery
http://www.misq.org/discovery/home.html

7.1. Data Collection

Data for the case of MISQ Discovery was collected using the following:

- An initial set of questions (appendix A) was answered by the founding editor-in-chief

- A follow-up phone interview with the editor-in-chief

- An interview (via e-mail) with the incoming editor-in-chief

- An interview (via e-mail) with the office staff of MISQ

- An interview (via e-mail) with one author. Since there are only three "published" articles, one author in New Zealand was deemed sufficient.

- An examination of the journal's home page, mission statement and articles posted as of June 1999

- An examination of other support documents such as: acceptance letters, review form and copyrights form

- Online search using common Internet search agents such as Infosys and Yahoo

- Access to the journal using three generations of technology: a 486 IBM compatible PC with Windows 3.1.1 and a 19.2K modem, a 586 Pentium using Win98 and a 56K modem and a Pentium 586 using win98 and SDSL capability with a 384K router

A general checklist is presented in appendix I.

7.2. Introduction

MISQ Discovery was initiated in 1995 by the editorial board of the MIS Quarterly (MISQ). Appendix D.4 lists the founding editors. MISQ is a leading paper journal in

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the field of Information Science and its editorial board exerts much influence in the field. MISQ Discovery was not intended as an electronic replacement to an existing paper journal (i.e., MISQ). Rather, its goal and vision is to publish work that is innovative in its use of information technology for research, learning, and publishing. A complete list of objectives can be found in appendix D.2

MISQ Discovery's vision is to accomplish the following three goals:

1. To create an outlet for high quality, fully refereed research papers utilizing advances in information technologies both in the material presented and in their structure. Articles in MISQ Discovery are chosen to represent the utilization of electronic media in the development of research work. The utilization may be in the use of various modes of presentations (e.g., images, graphs) or in the availability of added space (thus allowing additional material) or in the structure (using hyperlinks to create a structure different than the traditional sequential paper).

2. Commitment to creating a new intellectual infrastructure. MISQ Discovery is an exemplar of a global, virtual knowledge repository of research papers. To accomplish this vision, MISQ Discovery established the following policies:

   • The use of the WWW as its distribution means

   • Free access to work published

   • Living scholarship, which creates a dynamic knowledge repository rather than a static knowledge account. MISQ Discovery allows two types of work: archival articles and living scholarship. Archival articles are static. Once they are published they are stored on MISQ Discovery's server and cannot be modified. Each published article has an archival version. Living scholarship resides at one or more authors' sites. The authors of the work may modify the work, adding or deleting information based on readers' comments, new ideas or new technological advances. Living scholarships are optional. Thus, the archival article is used to maintain a permanent copy of the work, whereas the living scholarship is used to create communication and relevancy. An author may resubmit his or her work after three years with the modifications. To re-publish the work, the changes need to be significant. For additional information see appendix D.2.

3. To experiment in the production of electronic journals. One of the motivations behind establishing MISQ Discovery as an electronic journal is to push forward with new and innovative electronic media. MISQ Discovery serves researchers in the field of information systems and thus has the obligation to be a leader in

the implementation of the technology its constituency studies. MISQ Discovery was the first electronic journal in IS and the lessons learned from its implementation are useful in two ways:

- It provided future e-journals with rich experience.

- It increases our understanding of the utilization of information technology in the formation of knowledge repositories (Ives and Jarvenpaa 1996).

MISQ Discovery has no announced page or space limit.

The founding editor was appointed for four years.[14] In January 1999, a new editor in chief was assigned to MISQ Discovery. As of June 1999, there are no changes in policies, management practices or in the direction of the e-journal.

In summary, the characteristics of MISQ Discovery are designed as an example to future models of virtual global learning organizations. The following discussion examines MISQ Discovery in terms of the eight-M framework.

7.3. Material

The focus of MISQ Discovery is to provide an outlet for research papers that "push the envelope" in their usage of information technology and electronic media. Research papers submitted to MISQ Discovery that do not exhibit innovative use of information technology are referred to MISQ. The focus of the journal is on research papers in the areas of:

- Structure of knowledge systems and

- Management of information systems and technology

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[14]This appointment is similar to the appointment of an editor-in-chief at MISQ and the timing is aligned in such a way that the departing editor of MISQ is ready to assume the editor-in-chief role in MISQ Discovery.

However, unlike its paper counterpart, the material should reflect advances in knowledge creation and dissemination. For example, all three papers published, in MISQ Discovery as of May 1999 (see table 7.1), make extensive use of hyperlinks both internally and externally. Thus, MISQ Discovery articles adopt a network structure whereas traditional paper articles are organized as linear structures. Table 7.1 describes the three articles published in MISQ Discovery as of May of 1999, in terms of the type of material and their structure.

TABLE 7.1

MISQ DISCOVERY PUBLICATIONS AS OF MAY 1999 (see appendix D.6)

Date	Title	Material	Type*	Structure
12/1998	Survey Instruments in Information Systems by Peter Newsted, Sid Huff and Malcolm Munro	Tools for researchers	A, U	Networked, using internal and external links
06/1997	Qualitative Research in Information Systems by Michael D. Myers	Tools for researchers	A, U	Mostly linear with some branches to additional information
09/1996	Teledemocracy: Using Information Technology to Enhance Political Work by Pål Ytterstad, Sigmund Akselsen, Gunnvald Svendsen and Richard T. Watson	Research paper	A	Tree structure with navigational capabilities

*A – refers to an archival version of the article and

U – refers to an update version or a living scholarship

These articles exemplify the use of information technologies in creating future material. For example, the article, "Teledemocracy: Using Information Technology to Enhance Political Work" uses the additional available space to include non-traditional material such as original surveys both in English and in Norwegian. The

article, "Qualitative Research in Information Systems" links to external resources. The advantages of external links are:

1. Any change in the original information is immediately reflected in the article, thus maintaining accuracy and relevancy.

2. Space saving. Information resides at its origin rather than being duplicated.

The disadvantage is a potential lack of reliability and discontinuity when a site is no longer maintained. If a site containing information is temporarily unavailable or no longer maintained, the hyperlink to that site will result in an error. This error will appear both in the archival version and in the living scholarship since MISQ Discovery does not keep copies of the data posted in these external links.

In some cases, the amount of work required by the author (to produce an MISQ Discovery type article) is larger than the amount of work required to produce a traditional article. Articles such as article 3 that include large numbers of images, graphs and tables require additional editing and adjustments by the authors. Articles such as the second article in table 7.1, which has no images or pictures took the author approximately the same time it would take to complete a traditional MISQ article. According to the author, in living scholarship, the work continues after the article is published.

The author interviewed, also stated that one of the reasons for choosing MISQ Discovery as an outlet for his paper was the ability to publish the "article" as living scholarship. The author stated that since the original publication, in June 1997, the article was modified extensively.

One of the problems with the material submitted to MISQ Discovery thus far is that authors still think about their research and publications in terms of traditional

articles. This accounts for the small number of relevant articles available for publication. A set of invited, exemplary articles by noted authors or a set of essays by the editorial board could provide scholars with clear understanding of the vision of MISQ Discovery and criteria for accepted material.

7.4. Mode

Authors can use color, font size, audio, or video to make their point. All modes are accepted. The first paper published (Teledemocracy: Using Information Technology to Enhance Political Work), for example, makes extensive use of color, graphics, and images. None of the papers, as of June 1999, includes audio or video.

MISQ Discovery supports both HTML and PDF. However, all three articles published thus far are in HTML format.

Multimedia increases storage and transmission requirements significantly. MISQ Discovery does not assume responsibility for supporting users with limited access capabilities.

7.5. Medium

Articles are published electronically on the Internet. There is no allowance for multiple media (such as CD-ROM). As of June 1999, articles are in HTML and can be accessed via current versions of Web browsers such as Netscape and Internet Explorer.

7.6. Means

Archival articles are stored on the MISQ server. Living scholarship is stored at one or several authors' sites. Articles are made available as soon as they are ready. At approximately the same time, ISWorld Net readers are notified via an ISWorld listserv message. In addition, the article appears in the table of contents of the next MISQ issue. The MISQ issue also includes an abstract, a short introduction of the article and the URL where it can be found. In general MISQ Discovery uses pull distribution.

7.7. Market

MISQ Discovery targets academic researchers, interested in the management of IS, the structure of information and knowledge and the application of information systems and technology. The circulation of the journal is open. There is no required membership, password, or access code because the editors wanted to create the perception of an open access and not to limit or restrict right of entry. At the same time, the visibility of a journal, the size of its readership and the scope of its market are important to authors. One author stated that the visibility of MISQ Discovery created "far more feedback on [his] paper than any other". Yet, in May 1999, there was no "hit" count on MISQ Discovery's site and no information was available about the number of people that actually access, read or download articles from MISQ Discovery's site. Free e-journals that do not require registered membership or access codes have no way of measuring readership or surveying their market. Thus, MISQ Discovery does not really know the nature of its readership's size and demographics.

7.8. Money

MISQ Discovery is supported financially by MIS Quarterly. The financial commitment is unlimited. The offices of MISQ Discovery and the support staff are shared with those of MISQ. The initial setup of MISQ Discovery was done concurrently with the setup of the MISQ home page, using the same technical support, hardware and software. Therefore, the initial cost to establish MISQ Discovery was negligible. The initial design took about a month of part time collaboration of three professors. The design process required a total of about 50 e-mail messages. The cost of the professors' time and the cost of the communications infrastructure were paid indirectly by their respective Universities (and, thus not by the Quarterly).

MISQ Discovery is a free journal. One does not need subscriber identification or a password to access the articles listed in the table of contents. The free entrance allows universal access to students and others with limited financial abilities. Even if one was to print the articles (at an average cost of 5¢ a page), the cost is less than a subscription cost or typical copying cost at the library (7¢ – 10¢).

Currently, most of the work is done on a volunteer basis. The editor-in-chief spends about 20-30 hours per article in editing, proofreading and preparing the article for "publication."[15] This non-billable time is spent primarily to assist authors in preparing the article for electronic publication. The cost is absorbed by the institution

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[15]The term publication is used loosely. In actuality articles are not "published" rather they are posted on MISQ Discovery Web site.

(university) employing the editor.[16] The university that houses the current editor-in-chief carries the cost of printing manuscripts, phone calls, faxes and temporary disk storage.

Hardware, software and communications infrastructure costs are absorbed by MIS Quarterly. In 1999, MISQ charged $50 for an individual yearly subscription and $70 for an institutional yearly subscription.[17] These funds support both the paper-based journal and MISQ Discovery. Hosting MISQ's home page site costs $35 a year. In addition, a student systems administrator handles server maintenance and Internet access issues. These services cost MISQ around $110 a week. MISQ Discovery's needs are included in that sum. According to the founding editor, MISQ Discovery consumes about 30% of the cost. Thus the weekly cost to maintain the system is approximately $33. The cost to connect to the Internet is absorbed by the University of Minnesota. The total yearly, out-of-pocket cost to maintain the MISQ home page is $5755 of which 30% is attributed to MISQ Discovery ($1726/ year).

The implementation of MISQ Discovery as an e-journal saves on printing cost, distribution cost (such as postage) and storage cost. There is also some cost shifting to the readers, the authors, and the editorial board. For example, rather than paying subscription fees, readers must invest in communications and storage capabilities and in printing, if desired. For a reader in the University, communications, printing

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[16]The work done by the editor-in-chief, the editorial board and the reviewers is on a voluntary basis. However, the time spent is a hidden cost to the university (see extensive discussion of Money in section 3.2.2). It is not clear if the amount of time spent is higher than for paper journals and how that time curve will change as the technology improves and editors become more familiar with e-publishing tools and processes.

[17]$50 a for US subscriber, an international subscriber pays $60 a year, students' fees are $40 a year, and AIS members pay only $43 a year.

and storage are free. To an individual reader or students communication costs may include access to the Internet (approximately $20 a month), printing may include paper and cartridge at (3¢-5¢ a page). Storage and computer costs are negligible since the assumption is that all students and faculty own or have access to a PC.

7.9. Management

7.9.1. Sustainability

MISQ Discovery does not take any specific measures to ascertain the long-term sustainability of articles beyond a standard backup of files. Thus, archival scholarship is backed up and available via the office of MIS Quarterly. Living scholarship resides on authors' machines and may or may not be backed up, resulting in short-term sustainability at best.[18] A more serious problem occurs if an author of a living scholarship ceases to maintain the site. Such an author might recruit a new co-author to continue the work or may leave the article as is. In that case readers are encouraged to revert to the archival version of the work which may be behind the author's last version. However, there is no formal mechanism that informs a reader as to the status of a living scholarship. In the event of an author's death, MISQ has the right to take over the living scholarship.

7.9.2. Marketability

MISQ Discovery does not use a traditional marketing strategy. The mission of MISQ Discovery is to establish an e-journal that involves little traditional thinking.

Therefore, its founding editor concentrated on marketing in cyberspace rather than in paper space. The campaign to solicit papers is limited and is done primarily through announcements in MIS Quarterly. Editors and associate editors do not assume the responsibility to contribute work or solicit work. The journal is marketed via three channels:

1. MIS Quarterly - MISQ editorial comments announced the initiation and the existence of MISQ Discovery (Zmud 1996). All new articles appear in MISQ's table of contents. The design of the MISQ Discovery home page also emphasizes the e-journal's ties with MISQ using the same color scheme, same font and the display of the word "MISQ" in association with the word "Discovery".

2. ISWorld - ISWorld, is a virtual knowledge repository and an electronic meeting place for IS professionals, practitioners, students and researchers. MISQ Discovery is advertised on ISWorld via a direct link to MISQ Discovery's home page and flashing ads. Occasionally calls for papers are made on the ISWorld listserv. Two of the three published works are also components of ISWorld.

3. WWW search agents - MISQ Discovery can easily be found using Internet-based search agents. Three searches on the combination "MISQ Discovery" were conducted using the following three agents: Excite, Infosys and Yahoo. The first search, using Excite, resulted in the following relevant links, in order of appearance: (1) the Founding Editorial Board of the journal (see appendix D.4). This was an old page and hasn't been maintained since June 1997. (2) "MISQ Discovery Knowledge Creation" page. This page was also old and has not been updated since 1997. (3) MISQ Discovery home page. The second search, using Infosys, resulted in the following relevant links, in order of appearance: (1) MISQ Discovery search engine that is also the MISQ Discovery home page. (2) E-mail message regarding MISQ Discovery's mission. (3) MISQ Discovery editorial board (see appendix D.5). The third search, using Yahoo, resulted in a structured response. Yahoo produced two lists: Journals and magazines and electronic journals. Both lists contain MISQ Discovery and a direct link to its home page.

In general MISQ Discovery is well marketed and advertised in cyberspace. Less effort is made to market it using traditional marketing channels (also see: Tenure &

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[18]Since the living scholarship is not considered a formal part of the journal, the editor feels that the archival issue of the living scholarship is nonessential.

Promotion Committees below). For example, MISQ Discovery is not indexed or abstracted by national and international services. A search of ABI/INFORM found only one of the three articles that are published in MISQ Discovery. The article was referred to as an MISQ publication with a reference to MISQ Discovery in the summary.

7.9.3. Accessibility

Accessibility in many cases depends on the technology used. MISQ Discovery tries to "push the envelope" both in use of technology and the structure of the published work. Exploiting the full range of technological capabilities might limit accessibility. MISQ Discovery does not take on the responsibility to provide easier accessibility. It is designed to work with current, publicly available web browsers.

To experiment with older technology I used a 486 DX266, with Windows 3.1.1 and Netscape version 2.0 to access MISQ Discovery's articles. Access to the site took about 10 seconds. Access to articles with no images also took about 10 seconds. Loading images, however, took about 45 seconds per image. The resolution was poor and the images were unclear.

In general, the speed and accessibility deteriorated little when using older technology. Nonetheless, images and graphs deteriorated noticeably.

7.9.4. Timeliness

Articles are published when ready, thus reducing the time it takes to collect enough material for an issue. The mean cycle time from submission to publication is approximately one year, a substantial reduction from the traditional 2-3 years

common in paper journals such as MISQ. The majority of the time is spent on the review cycle. Articles are fully refereed. Archival articles are double-blind review and living scholarship is single-blind. The reason for the single-blinded format is that some living scholarship might require special technologies and as a result, resides on the author's server or, a previous version was publicly published in ISWorld. The review process includes the editor-in-chief, an associate editor and three reviewers. Most articles go through two to three iterations before they are ready for final editing. Other time consuming activities involve preparing the article for electronic "publication" such as inclusion of images and graphs and editing. For the first three works, these activities were done by the editor-in-chief, sometimes with the help of the authors. Authors for MISQ Discovery have additional work to do because the journal requires them to push the technological envelope in addition to the rigor required by MISQ. However, the author interviewed felt that the review process is comparable to a review process in a conventional journal and requires about the same amount of time and effort. Proofreading and editing is also comparable to a traditional paper journal.

In general, the major reduction in cycle time from submission to publication, in MISQ Discovery, results from "publishing" the work as soon as it is ready. There is no need to wait for an issue and there is no backlog of articles. This reduction is relatively substantive (from 2-3 years to one year). Any additional reduction in cycle time will need to come from improvements in the review process.

7.9.5. Priority Claims

For archival scholarship, the date an article is posted on the Internet can be used to assure priority claims. Living scholarship, as implemented by MISQ Discovery, can be modified any time. MISQ Discovery does not date stamp or record changes made by authors. Any modifications to a living scholarship after its initial publication overlays the existing work.[19] Priority claims, in living scholarship as implemented by MISQ Discovery, are hard to track for changes made due to living scholarship. When certain work is modified, there is a break in the chain of citations that is essential in academic research and the development of theory "breaks".

7.9.6. Managing Reputation

MISQ Discovery manages its reputation in three ways:

1. MISQ Discovery is tightly linked to MISQ. Both the founding editor and the current editor of MISQ Discovery are past editors of MISQ. Initially MISQ Discovery was established as a separate entity. As time passed, the need for added reputation and the low stream of submissions led to the integration of MISQ Discovery with MISQ. The tight association between MISQ and Discovery was one reason an author stated for publishing in MISQ Discovery.

2. The original board of MISQ Discovery and later the integrated board consisted of leading academics in Information Systems from universities around the world.

3. MISQ Discovery pieces are abstracted in MISQ, their reputation is tied together.

The first three articles involve well-known scholars in IS. However, as of August, 1999, there was no active solicitation of additional articles from well-established or

highly reputable authors nor was there much involvement in term of submissions from the editorial board. This fact might signal to junior authors that despite their serving on the editorial board of MISQ Discovery, most senior faculty do not publish there.

7.9.7. Managing the Direction

MISQ Discovery was designed to publish material covered in a conventional journal using advanced information technology and a non-traditional structure. However, MISQ Discovery was not designed to be an electronic substitute for a print journal. The work published might fit into the research journal paradigm but will not fit within the paper journal paradigm due to the latter's physical limitations. This fact draws authors and work that makes innovative use of technology and cannot be published in traditional journals. MISQ Discovery's direction concentrates on the innovative use of the media rather than on innovative material. Research papers that do not exhibit innovative use of technology are forwarded to MISQ.

7.10. Mannerism

This section deals with the "soft" issues of MISQ Discovery.

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[19]The archival version of the article always reflects the initial published material. Changes to living scholarships only overlay versions that reside at the authors' site and do not overlay the archival version. Readers can always revert to the archival version as a source of permanent copy. One way readers may recognize changes is by comparing the archival and the living scholarship versions.

7.10.1. Look and Feel

MISQ Discovery does not try to maintain the look and feel of a paper journal. On the contrary, the editors feel that it is important to avoid a "paper mentality". The structure of much of the work does not fit within the traditional paper paradigm. For example the article: "Survey Instruments in Information Systems" is not linear in its structure. It is built of distributed segments linked by hyperlinks. A printout of the work will not yield a manuscript similar to a traditional printed paper. Yet, some considerations to traditional look and feel were taken into account during the design stage. The initial design of MISQ Discovery was to be innovative, use state of the art technology (such as animation and frames) and ignore all relations to paper products. The final design was a compromise among several factors:

- Artistic taste

- Use of advanced technology. Full usage of Internet-based technologies

- Consistency with MISQ (via color, headings and fonts) which increases reputation, *perceived quality* and acceptance

- Professional look that will increase MISQ Discovery's market. This criterion implies a link to the traditional look.

- Internal consistency among various sections of the e-journal

- Ease of future maintenance

- Also implied was the need to conform to older technologies. The initial use of frames did not work on a laptop used by one of the designers. Even though not explicit, the fact that some of the design was done on a small screen impacted the decision to eliminate the use of frames.

7.10.2. Perceived Quality

MISQ Discovery's *perceived quality* is managed primarily through its strong ties

with MIS Quarterly:

- Work published in MISQ Discovery also appears in the MISQ table of contents and a summary appears in the journal. However, the summary that MISQ publishes does not list references used in the original MISQ Discovery articles. Therefore the authors referenced by MISQ Discovery do no receive citation credit. This fact can reduce the *perceived quality* of the journal.

- The editorial board of MISQ Discovery is integrated with the editorial board of MISQ.

- The two editors-in-chief of MISQ Discovery, are the outgoing editors of MIS Quarterly. Such policy indicates continuity and commitment by MIS Quarterly.

MISQ Discovery maintains a rejection rate of 75%.[20] This rate is in line with

acceptance/rejection rate of reputable paper journals in IS such as Information

Systems Research and MISQ. Low acceptance rate is usually equated with high

quality.

Despite the close ties, it is likely that MISQ Discovery does not enjoy the same

perceived quality as MIS Quarterly. The number of submissions is small (total of 12

submissions over 4 years). Some other reasons for the small number of submissions

might be:

- Authors, rooted in the paper world, find it difficult to envision "publications" for MISQ Discovery since it represents a new and different format.

- There is little authorship involvement of the editorial board of MISQ Discovery in the journal. With some exceptions, most editors and associate editors of MISQ have not submitted to Discovery.

- In May 1999, I made several attempts to access the archival version of an article, using a link from MISQ Discovery's table of contents, and failed. Only several

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[20]Since only 3 articles were accepted, as of June 1999, out of 12 submitted. The 75% should be interpreted with caution.

weeks later was the link corrected. Broken links can result in negative impressions and low *perceived quality* by readers.

In summary, the fact that MISQ Discovery is associated with MISQ, gives authors additional confidence in the value of the journal despite the fact that the e-journals' approval is not yet institutionalized.

7.10.3. Interactivity

MISQ Discovery is committed to increase the communication among IS researchers. Each article may be published as a living scholarship. Living scholarships can be discussed in ISWorld and may be changed as a result of readers' comments, new technologies and other contextual factors.

7.10.4. Tenure Committees

MISQ Discovery did not institute any specific measures to market the journal to tenure committees. However, a formal marketing campaign was less essential in this case, since the work appears in MIS Quarterly's table of contents, faculty facing tenure and promotion review, are able to include an MISQ publication in their vita. At the same time, authors cannot include a traditional paper copy of their work with their review package.

7.10.5. Gatekeepers

MISQ Discovery's vision is to create a place for high quality, research oriented papers that utilize information technology in their presentation and content. MISQ Discovery uses the same reviewer pool used by the traditional MISQ. Thus, the influence of gatekeepers on the material published remains the same. Considering

MISQ Discovery's vision, there is a conflict between the material and direction proposed by the journal and the use of traditional refereeing process and existing gatekeeping structure.

7.10.6. Managing Change

As the first e-journal in the IS field, MISQ Discovery had to manage the change from traditional paper publishing to electronic scholarship. Two areas had to be managed:

1. *Technical.* The existing staff was not trained to support electronic journals. The level of support given by the existing staff did not match the need. New skill sets were required. These skill sets were found among Minnesota University's technical support staff and are paid for by MISQ.

2. *Editors' lack of support.* Despite being on the editorial board of Discovery some associate editors did not believe in and did not support the concept of electronic journals. The founding editor observed that "the philosophy of some seemed to be that the academy would be immune from the electronic revolution."

7.10.7. Global Access

MISQ does not assume the responsibility to supports access in third world countries or any other entities with limited or no Internet capabilities. The assumption is that most research universities and institutes in the world are able to access MISQ Discovery via publicly available Web browsers.

7.11. Summary

Several philosophical ideas prompted the development of MISQ Discovery:

1. The idea that paper journals are an elitist product. Journals are becoming expensive and libraries drop subscriptions. Many journals are only available to well-endowed universities and are rarely available to individuals.

2. Access to paper journals is limited both by time and space. Even in a university where the journal is available in the library, a person has to walk physically to the library and therefore is limited by its location and hours. In many cases the article has to be ordered through interlibrary loan (ILL), introducing additional delay.

3. Paper media are slowly phasing out as a communications channel and will become outdated and obsolete. Academia had to accept the trend and adopt new communication channels.

4. Institutions fortunate to be vested with good reputations are responsible to use that reputation to help move towards greater access to scholarship.

The goal of MISQ Discovery is to push forward with technology and rely on the reputation of MISQ for acceptance and *perceived quality*. It was important for a journal of MISQ's reputation to establish an electronic outlet for research purposes. After four years of operation, the editorial board of MISQ Discovery concluded that such ventures should be done incrementally and in small steps. There is too much resistance to change. There is also lack of interest by IS researchers to harness the tools needed to create, review and access an innovative e-journal.

An author of an MISQ Discovery article made some of the conflicts between innovation and acceptance clear. The author was concerned that MISQ Discovery is an electronic journal. He is aware that perceptions on e-journals in his institution are yet to be formed and that a large amount of published work on the Internet is viewed as "unedited rubbish." At the same time MISQ Discovery is associated with a highly reputable paper journal and more importantly, the nature of the work demanded an electronic outlet. MISQ Discovery's drive for publishing innovative work compensates for the fears of change and lack of acceptance.

CHAPTER 8

CASE STUDY 3: FOUNDATIONS OF IS (FIS)
http://www.cba.uh.edu/~parks/fis/fis.htm

8.1. Data Collection

Data for the FIS – Foundations of Information Systems was collected using the following:

- An initial set of questions (see appendix A) was answered by both founding co-editors

- A follow-up interview with the co-editors

- A set of preliminary questions (via e-mail) was answered by the technical support staff

- A follow up phone interview with technical support staff member

- An interview (via e-mail) with one author

- An examination of the journal's home page, mission statement and articles posted as of July of 1999

- An examination of a case study published in the Proceedings of AIS describing the creation of the e-journal (Courtney et. al 1996)

- An examination of other support documents such as: acceptance letters, review form and copyrights form

- Online search using common Internet search agents such as Infosys, Excite and Yahoo

- Access to the journal using three generations of technology: a 486 PC with windows 3.1.1 and a 19.2K modem, a 586 PC using win98 and a 56K modem and a Pentium 586 using win98 and SDSL router communicating at 384Kbps

  A general checklist is found in appendix I.

8.2. Introduction

FIS was initiated in September 1996 by a grass roots movement within Information Systems. The incubation of the journal started with panel discussions and mini-track presentations at various conferences such as DSI (Decision Sciences Institute) and AIS. A more detailed account of the initiation and development of the FIS group can be found in Courtney et. al (1996). This group of scholars and researchers felt that there is a need to address issues currently not recognized by the main stream of IS. The group also found barriers to publishing that type of research in traditional IS journals. The goal of the Foundations of IS movement was not to answer pragmatic questions but rather to address fundamental, philosophical and ethical issues related to Information Systems. The new journal was to be an open form where the philosophical aspects of IS are discussed (appendix E.2).

The following reasons are cited (Courtney et. al 1996) for creating FIS as an e-journal rather than a p-journal:

1.   E-journals are more accessible.

2.   E-journals can reach a wider audience.

3.   E-journals require relatively small startup costs.

4.   E-journals can have global reach.

FIS has no announced page or space limit. FIS maintains a conservative image. Its articles use little of the "electronicity" available. They have a typical, sequential look and they feel much like paper articles.

8.3. Material

Research papers submitted to FIS do not necessarily study traditional, current or immediate concerns of IS rather they study philosophical, ethical and other axiomatic issues raised by the introduction of IS into society. Table 8.1 lists the nine articles published in FIS as of June 1999.

The nine papers include opinion papers, theoretical papers, historical accounts, philosophical arguments and case studies. None of the articles is a traditional, empirical paper of the sort generally published by MISQ or ISR.

FIS does not have a space limit. Yet, the papers published in FIS do not make extensive use of the extra space available. Most articles are within the range of 15-20 pages, the traditional page limit of most p-journals, and contain little additional information beyond the text and graphs of p-articles. The general structure of the articles is linear and resembles the structure of p-articles.

8.4. Mode

FIS would accept any format. As of June 1999, all nine papers published, use text and limited graphics. Colors, fonts, complex images, audio or video are not used. One reason for limited "electronicity" of the media is that the type of work submitted to FIS is think pieces and the traditional mode of expressing thinking is the use of words. Another reason is to ensure a black and white printable copy of each article.

TABLE 8.1

ARTICLES PUBLISHED IN FIS AS OF JUNE OF 1999
(ADAPTED FROM http://www.cba.uh.edu/~parks/fis/fis.htm)

DATE	ARTICLES and AUTHORS	# of Pages[21]
FEB 5, 1999	Systems ReThinking: An Inquiring Systems Approach to the Art and Practice of the Learning Organization Alice Kienholz	17
NOV 4, 1998	The Historical Perspective on the Philosophical Foundations of Information Systems Satya Prakash Saraswat	13
NOV 4, 1998	The Australian Special Edition Deborah Bunker, Editor 1. Information Technology and Systems(IT&S) As Tools: The Cultural Context of Tool Creation and Use Deborah Bunker, Roy Dean	11
	2. Inquiring Organizations James F. Courtney, David T. Croasdell, David B. Paradice	17
	3. Integrating IS and HCI using Activity Theory as a Philosophical and Theoretical Basis Helen Hasan	18
	4. A Comparison of Five Alternative Approaches to Information Systems Development Rudy Hirschheim, Juhani Iivari, Heinz K. Klein	37
	5. Ethical Dilemmas in Web Site Development Celia T. Romm, Jeanna Wong	12
	6. Tool Based Psychology as a Philosophy of Technology Irini Verenikina, Edward Gould	15
SEP 26, 1996	The Rationality of Value Choices in Information Systems Development Heinz Klein and Rudy Hirschheim	19

[21]Pages refer to standard 8.5 X 11 single spaced printed page.

FIS supports only HTML format. The journal provides authors with a standard, HTML template. This template was created for two reasons: (1) To help novice Web users and senior authors produce an HTML-based article by providing tools that reduce the learning curve necessary to submit an electronic article and thus increase participation by non-technical authors. (2) To ensure that all articles can be printed regardless of the modes used. The author interviewed stated that the template was very helpful and made article preparation much easier. For complete instructions for authors see appendix E.5.

The use of the template affects the global access, the "look and feel" and the *perceived quality* of the journal. These factors are discussed in section 8.10 on Mannerism.

8.5. Medium

Articles are only published electronically on the Internet. All articles are in HTML and can be accessed via current versions of Web browsers such as Netscape and Internet Explorer.

8.6. Means

FIS is distributed using demand-pull distribution. All articles are stored on a central server at the University of Houston. The decision to store articles centrally rather than to store them at the origin was selected to simplify the creation and

maintenance of the material for less technically savvy authors.[22] Articles are posted on the FIS web site as soon as they are ready.

8.7. Market

FIS is designed for academic researchers interested in the foundations of IS, the ethical implications of Information Technology, and other philosophical and fundamental issues concerning IS. This specialized niche market is small and multidisciplinary. The circulation of the journal is open. Membership, password or access codes are not required. Open access was implemented to support easy accessibility, one of the reasons for implementing FIS as an e-journal. Increased accessibility was one of the reasons the author interviewed chose FIS as an outlet for her article.

FIS does not record a "hit" count on its server. Neither does it support any other procedures to assess the readership of the journal. Since FIS serves a small, specialized and tightly knit community, the editors did not see a need to establish such a measure. The market of FIS is relatively stable and well known to the editors.

8.8. Money

The research institute at the University of Houston supports FIS financially as part of the university's research program. The financial commitment is unlimited in time. The articles reside on the university's web server. All of the communication

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[22]Initially FIS planned to store articles at the author's site. However, this strategy requires the authors to be technical, to be able to create and maintain the site and to have backup and recovery plans.

between editors, reviewers and authors is electronic and is supported by the university.

Currently, all the work is done on a voluntary basis. The editors-In-chief spend, on average, 4-5 hours per article[23] in editing, proofreading and preparing the article for "publication". The time is primarily spent with reviewers and authors on improving the quality of the articles. Some articles require very little work, others require extensive modifications. The editors are committed to working with the authors until the article is ready for publication rather than rejecting the article at the outset. In addition up to 2 hours per articles are spent on the technical side. The technical member of the FIS editorial staff is also a professor at the University of Houston. Articles that are submitted in HTML format and use the template can be posted immediately and require a negligible amount of work. Articles that are submitted in text format or as WORD documents require conversion. The time spent by the editor and support staff is not billable time. The cost is absorbed by the institutions (universities) employing the editors. The universities that house the current editors-in-chief carry the expense of phone calls, fax, electronic communication, and disk storage.

8.9. Management

The voluntary nature of the administration of FIS has implications on the management practices utilized. The managing editors of FIS work as volunteers.

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[23]The time spent on each article varies substantially. According to the editors that time varies from 1-2 hours for articles that require minimal work up to 10 hours for articles that require major revisions and editing.

The entire production of the e-journal is accomplished by three full time faculty. These professors have many other duties beyond managing the journal such as research, teaching and community service within their respective universities. Therefore, time constraints and lack of manpower is cited as the main reason for the gradual implementation of some of the initially planed management practices.

8.9.1. Sustainability

FIS management takes two measures to ascertain the sustainability of articles:

* The published articles reside on a university's web server and, as such, are backed up periodically. Backup ensures short-term recovery in case of a server failure.

* However, to allow for long-term sustainability of the published articles in case the server is retired or the FIS project is discontinued, a print copy of all articles is maintained at the FIS office at the University of Houston. This measure is useful as long as the articles continue to resemble p-articles. In the future if articles become "electronic" in nature, as FIS hopes, they will lose much of their meaning in print. For additional discussion on using mixture of media see section 2.2.

8.9.2. Marketability

FIS is marketed solely within the IS discipline. The FIS community is relatively small and specialized. Thus, there is less need for extensive marketing. FIS is marketed via two main channels:

* *The AIS conference* – The editors of FIS run a mini-track titled "The Philosophical Foundations of IS" in the annual AIS conference. The mini-track exposes the topic to the international academic community of IS. It is also considered as a source of potential articles. The mini track presented 16 papers in 1998 and 29 papers in 1997. Of these papers, 1 was published in the FIS journal, as of June 1999.

* *ISWorld* – ISWorld is used to advertise the posting of new articles. When a new article is posted, a message is sent on the ISWorld listserv. ISWorld also has a "philosopher corner" that deals with the fundamentals of IS. However, there is no

link between the philosopher's corner and the FIS homepage. The reason for the omission is an oversight by the editors. The initial plan was to include such a direct link.

In cyberspace, FIS could not be found using Internet-based search agents. Searches on the combination "Foundations of IS" were conducted using the following three agents: Excite, Infosys and Yahoo. None of the three found a link to the journal (direct or indirect). In addition three searches on the combination "Philosophical Foundations of IS" were conducted using the same search agents. The first search, using Excite, resulted in a link to "Call for papers" for the AIS mini-track mentioned above. The second search, using Infosys, resulted in one relevant link, a call for papers for a special issue of the p-journal, The Frontiers of Information Systems, dealing with the philosophical foundations of IS. This site had a link to the FIS' homepage. The third search, using Yahoo, resulted in no hits.

In the paper world, a search of the ABI/INFORM database found no reference to any of the articles listed in table 8.1.

In summary, FIS serves a relatively small community and is marketed as such. The author interviewed (who is not an IS academician) found FIS via several searches on the Internet, indirect links, her knowledge of the subject matter and the people involved. The reason for the limited marketing is that the editors felt that they needed to strengthen FIS internally first, building FIS from within. Only when the topic (which is new and foreign to the mainstream of the IS community) is established and the form of FIS is completed, will the editors be ready to open FIS to a broader audience.

8.9.3. Accessibility

Accessibility depends on the technology used. As of July 1999, FIS utilization of the technology is minimal. The articles are organized in a linear manner and are easy to print. Therefore, accessibility should be relatively easy for both expert and novice users of Web technologies. FIS does not provide a hard-copy version of the articles since they can be easily printed and read from a paper copy. FIS is free and does not require subscription, user-id or a password to access. The aim was to provide any time, any place access to the journal with minimal obstacles.

Using a SDLS line (384K download) with a Pentium 586 and Netscape 4.5, the FIS site was accessed in less than 10 seconds and articles were accessed in less than one second. Using a 56K modem with a Pentium 586 and Netscape 4.5, the site was accessed in less than 10 seconds and articles were accessed in less than 5 seconds. Using older technology (a 486 DX266 PC, with Windows 3.1.1 and Netscape version 2.0) the FIS site was accessed in approximately 50 seconds. The table of contents and the articles could not be accessed by this technology.

8.9.4. Timeliness

The mean cycle time from submission to publication is approximately one year. The majority of the time is spent on the review process. Articles are fully refereed using traditional double-blind review. The review process includes the editor-in-chief, an associate editor and three reviewers. A detailed description of the refereeing process can be found in appendix E.1. Most articles go through two to three iterations before they are ready for publication. Articles may take from 4 weeks to 1 year to be reviewed, revised and get ready for publication depending on their initial

quality and on reviewers' response time. Reviewers tend to reply faster when the topic of the article is interesting. From an author's perspective, the time to create the article is similar to that of a p-article. The review and publication time is generally quicker than that of comparable p-articles. One author experienced a significant delay in the journal's posting of the article on the Internet. Articles are published when ready thus eliminating the time it takes to collect enough material for an issue. Actual time for posting is less than two hours.

In summary, the major reduction in cycle time from submission to publication, is in the fact that work can be "published" as soon as it is ready, the extensive use of electronic communication among all stakeholders and the use of the template to prepare articles.

8.9.5. Priority Claims and Copyrights

The date an article is posted on the Internet can be used to assure priority claims. FIS resembles a print journal in the sense that its articles are static in nature. Therefore, there is little concern that the chain of citations will be corrupted. Authors maintain copyrights to their work and they may publish the work or a version of it in other journals.

8.9.6. Managing Reputation

Managing FIS reputation is difficult for two reasons:

1. FIS is an independent e-journal. It was created by a grass roots movement and is not officially sponsored by an established association or a professional society. FIS is also not associated with any existing p-journal.

2. FIS caters to a small subset of the IS community. Since the topic of research, is outside of the IS mainstream, FIS has few prominent scholars to rely upon for articles and support.

FIS editors manage the journal's reputation via the following:

1. Promoting the topic in academic conferences such as DSI and AIS

2. Using the reputation of the editors themselves

3. Soliciting articles from highly regarded authors

4. Ensuring the publication of high quality and well written articles

5. Using a highly regarded editorial board (see appendix E.3)

In general, authors that publish in FIS are committed to the topic and therefore the overall rating of FIS, compared to other IS journals, is of less importance to them. The interviewed author stated that in addition to her interest in the topic, the caliber of the editorial board prompted her to submit a paper to the journal.

8.9.7. Managing the Direction

FIS is a specialty journal with a clear direction. The journal was established to provide an outlet to a very specific research area. The journal does not publish traditional empirical research (for additional discussion on Material see section 8.3). The use of electronic media is inconsequential to the direction of the journal. However, the availability of a relatively inexpensive media and distribution means makes this endeavor possible.

8.10. Mannerism

The minimal use of "electronicity" and the availability of the template have implications on several components of Mannerism such as look and feel, *perceived quality* and global access.

8.10.1. Look and Feel

FIS strives to maintain the same look and feel of a paper journal. The structure, length and mode of the articles are designed to allow easy printing. The predetermined template ensures a common and linear organization. The structure includes traditional segments such as abstract, introduction, literature survey, summaries and conclusions. Internal or external hyperlinks are not used. The three main reasons for selecting the traditional look and feel were:

- The nature of the material published is better read on paper "under a shady tree". The articles deal primarily with philosophical issues and not with technical issues.

- Increase acceptance by the IS community. The founding editors felt that a traditional "look and feel" would improve the *perceived quality* and increase the acceptance of the new journal.

- Many of the authors are not technically savvy. The availability of an easy-to-use template is designed to encourage such authors to submit their work to an e-journal. The author interviewed also supported this assertion.

8.10.2. Perceived Quality

FIS editors recognize the importance of the journal's *perceived quality* and the difficulties in achieving positive perceptions. FIS faces additional difficulties in managing its *perceived quality* because it lacks formal ties to established associations or journals. FIS editors manage the journal *perceived quality* in the following ways:

1. The e-journal has a look and a feel of p-journals. Articles can easily be printed. There is very little use of "electronicity."

2. All articles are fully refereed using the traditional review process.

3. The appointment of established scholars to the advisory/editorial board

4. The use of an author's kit helps FIS to maintain a consistent, designed look throughout all published articles

5. FIS allows authors to publish versions of their articles in p-journals. Thereby, increasing exposure of the articles, authors and the topic to readers that would otherwise regard them as inferior.

6. The use of special issues such as an upcoming special issue of Information Systems Frontiers dealing with Fundamentals of IS. Such special issues also increase the exposure of FIS and its main topic to readership that traditionally will not be reading e-journals.

FIS maintains an acceptance rate of about 50%. Despite the relatively high acceptance rate, the editors contend that it does not reduce the quality of the published articles for the following reasons:

1. The objective is to improve promising manuscripts to a high quality publishable work rather than to reject them.

2. Because FIS is a specialty journal, most material submitted is appropriate.

3. Most articles in FIS deal with philosophical and conceptual issues rather than being empirical. It is harder to reject an "opinion" if it is well stated and supported.

Despite its grass roots origin, FIS was able to publish 9 articles in its first two and a half years of existence (from 9/1996 to 6/1999). This number is small compared to p-journals in IS. However, considering the very specific topic and the size of the community FIS serves, the numbers appear to indicate success.

8.10.3. Tenure Committees

FIS did not institute any specific measures to increase acceptance or to market the journal to tenure committees. However, due to the journal's traditional look, authors can include a paper copy of their work with their review package. Also, since authors maintain the copyright to their work they may be able to publish it in a p-journal that is more acceptable for tenure. As stated above most authors are committed to the topic and rating is less of an issue.

Two facts hinder the inclusion of FIS articles in traditional citation analysis: (1) FIS uses URLs for citations rather than the traditional volume, issue, page, year combination, and (2) FIS articles do not appear in secondary indexing such as ABI/INFORM.

8.10.4. Gatekeepers

The goal of FIS founding editors was to find advisory/editorial board members who are well established in the field but at the same time "... rather open-minded and not unduly wedded to a particular world-view or dogma" (Courtney et, al 1997, p. 397). The editorial board was selected from a group of scholars that believe in the topic and are willing to support and push it forward. The high acceptance rate and the fact that the editors and reviewers are willing to work with authors rather than reject them indicates that they act more as mentors and less as gatekeepers. The author interviewed also supported this assertion.

During its initial years FIS tried to establish itself as an innovative and originative journal. It is an archetype of a journal that is uncommon in IS (both in terms of

content and methodology). Therefore, FIS looked to scholars from within the philosophical field rather than to traditional IS gatekeepers.

8.10.5. Global Access

FIS editors are aware that not all readers have the latest, state-of-the-art technology. Therefore, the template is designed for easy printing of all articles. Any reader with limited Internet access may be able to access the articles once and produce a print copy.

8.11. Summary

FIS was established to support a small and non-traditional research stream within IS. As such it faces major obstacles beyond the hurdles faced by most e-journals:

1. The relative small size of its constituency

2. Lack of official ties (and thus support) to the establishment (such as professional society or an established journal)

3. The non-traditional nature of the work submitted both in terms of content and research methodologies

4. Lack of industry support. FIS does not deal with current, state-of-the-art topics and thus does not draw industry support.

5. The need to balance innovation and control

The founding editors of FIS realized that the issues listed above are reasons for authors not to submit work to both a newly founded and an electronic journal. Therefore the founding editors took measures to ensure an easy submission process, traditional look and feel and increase *perceived quality*.

The ability to initiate a new academic journal with zero out-of-pocket expenses allows a relatively small group of academicians to create an outlet that supports a unique and non-traditional research stream. However, increasing the number of specialty journals may create an increase in the fragmentation of the discipline.

CHAPTER 9

CASE STUDY 4: JOURNAL OF ELECTRONIC PUBLISHING (JEP)
http://www.press.umich.edu/jep/

9.1. Data Collection

Data for JEP – The Journal of Electronic Publishing was collected from the following:

1. A phone interview with the founding editor, the director of the University of Michigan Press

2. An initial set of questions (see appendix A) was answered by the current editor

3. A follow-up interview with the editor

4. A set of preliminary questions (via e-mail) answered by the editorial support staff

5. A follow-up electronic interview with the copy editor

6. An e-mail interview with 2 authors. One author published 10 articles; the other author published one article in JEP.

7. Examination of the journal's home page, mission statement and articles posted as of August 1999

8. Online search using common Internet search agents such as Lycos, Excite and Yahoo

9. Online search using secondary indexing such as ABI/INFORM

10. Access to the journal using three generations of technology: a 486 PC with windows 3.1.1 and a 19.2K modem, a 586 PC using win98 and a 56K modem and a Pentium 586 using win98 and SDSL router communicating at 384Kbps

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11. Using information received as a subscriber[24] to the journal since 1998

12. Support documents such as: acceptance letters, review form and copyright form were not examined since JEP does not use any of the above formal documents.

A general checklist is presented in appendix I.

9.2. Introduction

The University of Michigan Press initiated the Journal of Electronic Publishing in 1995. Colin Day and Lorri Lejeune of the University of Michigan Press were the originators of the journal. The primary motivation behind the journal was to create a forum that will discuss the transition of publishing (primarily academic publishing) from paper to electronic. During the mid-1990's a large body of material on the topic started to develop. The material was primarily presented in conferences and was circulating among a small number of academicians. The founding editors searched for ways to disseminate that knowledge and democratize the process of its publication. JEP's initial purpose was to publish e-publishing related work and to be used as a learning tool. Until then, UM Press only published academic books. JEP provided UM Press staff the opportunity to deal with the publications of articles, learn the production, process, and management involved with e-publications such as dealing with tight schedules. This initial focus shifted as the originating editors stepped down in 1996 due to lack of time. The current editor's focus is on the dissemination of e-publishing work rather than on e-publishing as a learning tool. The scope of the e-journal extends to any topic related to the publishing industry

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[24]People "subscribe" to JEP without cost by filling out an electronic form on the Web. The form is
Footnote continued

from technology to copyrights to quality. In 1997 the current editor took over. JEP published an average of 35 articles a year since its inception.

JEP was established as a service to the community rather than as a commercial venture. UM Press does not anticipate any profits from the venture.

JEP is intended as a practical, applied journal and is geared towards practitioners of academic publishing such as university presses, academic librarians and researchers interested in the topic of publishing.

JEP is a semi-refereed e-journal. The authors have the option to request full refereeing or editor's review. As of August 1999 only one paper was fully refereed. Innovative and unorthodox work that relates to the topic of e-publishing is accepted and improved when necessary by the editor.

These characteristics can be seen by examining JEP in terms of the eight-M framework.

9.3. Material

JEP accepts articles dealing with the transformation of the publishing industry from paper-based to electronic-based. JEP publishes research papers, case studies, opinion papers, book reviews, first person accounts, reprints and links to pertinent resources. As of August 1999, 135 articles were published. JEP does not have announced space or page limits. The editor contends that good editorial review eliminates overly long articles.

shown in Appendix F.3.

JEP publishes quarterly issues that are organized in yearly volumes. There is no limit to the number of articles published in an issue.

9.4. Mode

The primary mode used in JEP is text. The first articles written in 1995 used only text. Several of the initial articles contain extensive mathematical formulas. To represent these mathematical formulae in HTML, JEP uses GIF format. The articles are linear and look like an electronic version of paper articles.

Beginning in 1997, articles contained limited images, and some external and internal links in the body of the article.[25] The links are used primarily to direct readers to relevant references. Thus a citation to an article is linked to the actual reference in the references list. More extensive use of external links was introduced in 1999. None of the articles uses audio, video, colors or 3-D images.

9.5. Medium

Articles are published on the Internet. All articles are in HTML format and can be accessed via current versions of Web browsers such as Netscape and Internet Explorer.

9.6. Means

JEP is distributed using a combination of demand-pull and supply-push. Once a quarter, when an issue is published, all subscribers receive an e-mail notification.

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[25]All articles use external references when citing an electronic resource. In addition work about other e-journals has links to these journals.

The e-mail includes a description of and a direct link to each article as well as a link to the JEP homepage. Thus, JEP uses push notification and the reader uses pull access.

JEP is published quarterly to minimize the number of e-mail messages sent to subscribers. A subscriber who receives over thirty messages a year (one for each published article) may tend to ignore most of them. JEP assumes that readers are more likely to actually read articles of interest if they are not overloaded with e-mail messages and announcements.

9.7. Market

JEP reaches approximately 1,200 subscribers globally. In its four years of existence JEP's site had approximately one million hits. It is hard to infer the number of readers from the number of hits primarily because JEP is listed with most Internet search agents (see access below) and some of the hits may be occasional Web surfers. The journal's primary market includes practitioners and researchers of academic publishing. This market is interdisciplinary. The practical group involves librarians in research universities, publishers, university presses, and organizations involved in secondary indexing and abstract services. Academically JEP caters to library scientists and to researchers from various disciplines who are interested in electronic publishing. JEP's readership and authors include researchers from disciplines such as mathematics, economics, marketing, social sciences and information sciences. JEP collects information about its subscribers (see appendix F.3) but does not analyze or publish current demographic information. Appendix F.2 describes the subscriber list break down as of mid 1998. The lack of market

information was described as a problem by one author. The author stated that he likes to know his audience when writing an article. Not having that information made writing more difficult for him.

9.8. Money

JEP is a free e-journal. Subscribers are not required to pay, nor are they required to logon to the journal's site. No library or institutional fees are involved.

The University of Michigan Press supports JEP financially on an ongoing basis. However, there is no legal contract, or any other formal commitment. The support may continue indefinitely but it could be terminated at any time. According to the director of UM Press, the commitment to continue JEP depends on the amount and quality of material available for publishing.

The articles reside on the University of Michigan Press Web webserver. All of the communication between editors, reviewers and authors is electronic and is supported by the editor. The editor is an entrepreneur, involved with web publishing. The added communications cost is negligible and is absorbed by the editor. The editor spends about 10 to 12 hours per article in reviewing, communicating with authors, editing and converting various file formats to HTML. In addition, JEP employs a digital publishing specialist and a professional copy editor who cost $1,100 a year. The digital publishing specialist is a full time employee of the UM Press and is assigned to JEP on a part time basis. She spends approximately 25 hours per issue. Her duties include:

1. Mediating between the editor and copy editor
2. Checking for spelling, logic and style errors

3. Incorporating authors' corrections

4. Posting authors bios and photos

5. Updating authors and articles lists

6. Ensuring the functionality of the search engine

7. Posting the new articles on the server and

8. Sending a notification e-mail to all subscribers

9.9. Management

9.9.1. Sustainability

JEP's management provides short-term sustainability for the articles. The published articles reside on the University of Michigan Press Web server. They are backed up periodically. Backup ensures short-term recovery in case of a server failure. However, there are no apparent measures to ensure long-term sustainability of the published articles in case the server is retired or the JEP project is discontinued. JEP does not require exclusive rights to the articles. Because, authors may publish their material elsewhere JEP's editor is less concerned with the long-term sustainability of JEP.

9.9.2. Marketability

JEP is well marketed in cyberspace. It can be found using Internet-based search agents. Three searches on the combination "Journal of Electronic Publishing" were conducted using the following three agents: Excite, Lycos and Yahoo. The two searches using Excite and Lycos resulted in a direct link to JEP's homepage. The third search, using Yahoo, resulted in no hits. In addition JEP can be accessed via

the University of Michigan Press homepage which is also registered with Web search agents.

In the paper world, a search of the ABI/INFORM database found no reference to any of the articles published by JEP.

JEP's affiliation with the UM Press guarantees additional marketing channels. JEP is promoted by UM Press along side more traditional publications. It appears in the press's literature, brochures and promotional material.

9.9.3. Accessibility

Accessibility depends on the technology used. As of August 1999, JEP's utilization of the technology was minimal. The articles are organized in a linear manner and are easy to print. Therefore, accessibility should be relatively easy for both expert and novice users of Web technologies. Articles can be easily printed and then read from the paper copy. JEP is free and does not require subscription, user-id or a password to access.

Using an SDSL line (384K download) with a Pentium II 586 and Netscape 4.5, the JEP site was accessed instantaneously and articles were accessed in less than three second. Using a 56K modem with a Pentium 586 II and Netscape 4.5, the site was accessed in about 4 seconds and articles were accessed in about 6 seconds. Using older technology (a 486 DX266 PC, with Windows 3.1.1 and Netscape version 2.0) the JEP site was accessed in approximately 50 seconds.

9.9.4. Timeliness

Originally articles were published as they were ready because the founding editors did not believe that the concept of "issues" made sense in the electronic environment. Currently, articles are published on a quarterly basis thus introducing a delay. The current editor implemented the change assuming that readers feel more comfortable with a regular, periodic cycle in which to access articles. Since there is no limit to the number of articles published per issue there is no backlog of articles. The primary delay is due to the periodic distribution. The mean cycle time from submission to publication is approximately 2 months. Refereeing time is approximately three weeks. This turnaround time is faster than traditional journals and was cited as a positive element of JEP by one author.

9.9.5. Priority Claims

The date an article is posted on the Internet is shown to assure priority claims. Articles are static. Changes to the content of published articles are appended as comments. Incorporating changes into citations may create confusion because if a change is cited by another article, the change (i.e. the "comment") has to be referenced rather than the original article.

9.9.6. Managing Reputation

JEP manages its reputation using the following methods:

1. It maintains strong ties to UM Press, an established and reputable outlet for published academic work.

2. An editorial board consisting of leaders in the various aspects of academic publishing (see appendix F.1). This editorial board includes directors of several

known university presses, ACM digital library, and researchers in the library sciences.

3. JEP is committed to high quality, well-written articles. The commitment involves soliciting articles from well-established and highly reputable authors and major involvement by the editor who is experienced both in writing and in academic publishing.

One author stated that in his department an article in JEP equated to an article published in a reputable p-journal due to his research in new media.

In general, authors that publish in JEP are committed to the topic and therefore the overall rating of JEP compared to other journals is of less importance to them.

9.9.7. Managing the Direction

JEP is a specialty journal with a clear direction. The journal was established to provide an outlet to a very specific research area. Therefore, managing its direction is relatively easy. Articles published deal specifically with electronic publishing. Articles that do not meet that basic requirement are rejected. Despite the limited electronicity of the journal, its topic mandates the use of electronic media.

9.10. Mannerism

9.10.1. Look and Feel

JEP initiated the following steps to ensure the same look and feel as a p-journal:

1. JEP follows a general outline of a traditional journal. Articles are combined into quarterly issues. Issues are combined into yearly volumes.

2. JEP articles are referenced using the traditional volume, issue, and year method.

3. Each issue has a table of contents.

4. Issues are organized around themes and the "Editor's Gloss" establishes a thread that connects the articles in the issue together.

5. JEP's articles are easy to print out and the printed version looks like a p-article.

However, the paper-like appearance of JEP is based on the material available rather than on a premeditated decision by the editor. The quality of the content is more important than the format used.

9.10.2. Perceived Quality

JEP's *perceived quality* is managed in several ways:

- By managing the journal's over-all reputation

- By maintaining the look and feel of a paper journal (see above)

- By creating a traditional structure and publishing issues on a periodical basis

- By using the well-established reputation of UM Press

- By allowing authors to publish versions of their articles in p-journals, thereby increasing exposure of the articles, the authors and the topic to readers who might otherwise regard them as inferior

JEP maintains an acceptance rate of about 95%.[26] The editor contends that this very high acceptance rate does not reduce the *perceived quality* of the journal or the quality of the published articles for the following reasons:

1. The objective is to improve promising manuscripts to a high quality publishable work rather than to reject them. According to both authors interviewed JEP's editor is committed to that vision.

2. Because JEP is a specialty journal, most material submitted is appropriate and thus fits JEP's direction and mission.

3. JEP published a large number of invited articles and reprints of work that was already accepted elsewhere. This approach guarantees a 100% acceptance of many of the articles.

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[26]In most social science disciplines (e.g. organizational science, management science and IS), a high rejection rate of 80-85% is equated with high quality journals. In academic journals for hard sciences such as physics, chemistry and biology, high acceptance rate is common.

9.10.3. Tenure Committees

JEP did not institute any specific measures to increase acceptance or to market the journal to tenure committees. However, due to the journal's traditional look, authors can include a paper copy of their work with their review package. Also, since authors maintain the copyright to their work they may be able to publish it in a p-journal that is more acceptable for tenure. As stated by both authors interviewed, JEP is well accepted in their respective disciplines and institutions.

The traditional structure of JEP (i.e., the use of issues) helps the inclusion of JEP articles in traditional citation analysis. However, the fact that JEP articles do not appear in secondary indexing such as ABI/INFORM, might lower the number of articles cited. A journal is required to exist for at least 2 years before it can be considered by secondary indexing services. JEP has been in existence for over four years, yet at the time of the interview, its editor did not apply for inclusion in any of the indexing or abstract services.

9.10.4. Gatekeepers

To allow the acceptance of unorthodox work, JEP implemented a semi-refereeing system. Articles may be peer reviewed if the authors choose that route. Otherwise, articles are reviewed by the editor. The editor of JEP is committed to the topic and has extensive experience in electronic publishing in higher education. The philosophy of the journal is to improve articles to a high quality publishable work rather than to reject articles that are not acceptable initially. Thus, innovative and unorthodox work, that relates to the topic of e-publishing is accepted and improved

when necessary.[27] Since readers can comment on the work published, the "peer review" is done after the article is published.

9.10.5. Global Access

JEP's editor is less concerned with global access and access in countries or regions with limited capabilities then with access in the US. However, the limited electronicity of the articles allows any reader with limited Internet capabilities to access the articles once and produce a print copy even if it takes a long time to download.

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[27]For additional discussion on the various philosophies in academic journals refer to "Gatekeepers and the ability to publish unorthodox work" in section 2.2.

CHAPTER 10

CASE STUDY 5: THE JOURNAL OF INFORMATION
LAW AND TECHNOLOGY (JILT)
http://ltc.law.warwick.ac.uk/jilt/

10.1. Data Collection

Data for the JILT was collected from the following resources:

- An initial set of questions (see appendix A) was answered by the editor

- Examination of the journal's home page, mission statement and articles posted as of August, 1999

- Examination of the journal's progress reports for 1996 and 1997 (see appendices G.4 and G.5)

- Online search using common Internet search agents such as Lycos, Excite and Yahoo

- Search using OVID and First Search

- Access to the journal using two generations of technology: a 586 PC using Win98 and a 56K modem and a Pentium 586 using Win98 and SDSL router communicating at 384Kbps

In this case the general checklist found in appendix I, was not followed completely because the editor did not fully cooperate. The editor agreed to fill out the questionnaire but neglected to reply to requests for a follow-up interview. JILT maintains extensive information about its practices on its Web site. This information allowed inclusion of a sufficient amount of detail in the case. Subsequently the editor reviewed the case summary as it is presented below and found no errors or misrepresentation of facts.

10.2. Introduction

JILT published its first issue in January 1996. The journal was started as a result of a governmental program initiative. The Electronic Library Program of the Joint Information Systems Committee in the UK sponsored and funded the journal.

The objectives of JILT are to:

1. Establish a high standard for electronic law journals

2. Provide users with extensive and intelligent hyperlinks to primary and secondary sources

3. Facilitate faster publication than is currently available in traditional law journals

4. Encourage continued debate between authors, reviewers and, eventually readers

5. Promote the publication of research and authoritative features

6. Have an international emphasis

7. Develop a dynamic environment where articles change as new ideas emerge from discussions

8. Establish effective electronic communication between authors and editors

JILT's main motivation was to establish an electronic outlet for high quality refereed Information Law articles combined with innovative and unorthodox work. For a copy of JILT's mission statements and objectives see appendix G.3.

JILT has no announced page or space limit. JILT maintains a conservative image. Its articles use little of the "electronicity" available to e-journals. Most articles have a typical, sequential look and they feel much like paper articles. The following discussion examines JILT in terms of the eight-M framework.

10.3. Material

JITL material includes the following:

- Scholarly peer reviewed articles

- Short articles and notes on topical subjects

- Downloadable applications and demonstrations

- Application reviews

- Conference reviews

- Book reviews

- Discussions

- Consultation documents

- Work in progress

- Text of relevant legislation and law reports

- Diary of events

Table 10.1 lists the distribution of articles and their type published in JILT as of August 1999.

TABLE 10.1

DISTRIBUTION OF ARTICLES PUBLISHED IN JILT AS OF AUGUST 1999

Year(Issue)	Refereed Articles	Book Reviews	Work in Progress	Conference Papers	Applications/ IT Reviews	Other[28]
1996(1)	7	2	3	3	3	0
1996(2)	7[29]	3	1	3	1	0
1996(3)	3	4	2	5	5	0
1997(1)	5	4	2	2	3[30]	0
1997(2)	6	6	1	7	4	7
1997(3)	6	11	4	5	4	11
1998(1)	6	12	1	4	2	1
1998(2)	5	8	1	2	2	2
1998(3)	5	1	3	3	0	2
1999(1)	5	3	3	2	1	3
1999(2)	11	3	0	1	0	3
Total	71	57	21	37	25	29

As of August 1999, JILT published a total of 240 articles. As stated in its mission statement, the journal combines high quality, rigorous refereed articles with practical material, innovative work and information that due to space or medium limitation could not be published on paper such as software reviews and downloads.

The material published covers areas such as IT Law, IT applications in legal practice, software review and demos, legal issues in electronic commerce, security and privacy issues, liability for defective software, practical and legal barriers to electronic access, and computer crimes.

Despite JILT attempt to promote interactivity and "live scholarship", only one article was modified since its initial publication.

[28] In 1997, additional categories are added occasionally such as commentaries, case reviews and case notes.

[29] Six of the articles are new articles, the seventh is a revised article. It is the only revised article published as of August 1999.

10.4. Mode

JILT accepts any format. As of August 1999, all articles published, use text, hyperlinks and limited graphics. Colors, fonts, complex images, audio or video have not yet been used.

JILT supports HTML format and Word Perfect downloads.

10.5. Medium

Articles are only published electronically on the Internet. All articles are in HTML and can be accessed via current versions of Web browsers such as Netscape and Internet Explorer. JILT posts both frame and non-frame versions. Readers may choose to use the frame or a non-frame version.

10.6. Means

JILT is distributed using demand-pull combined with a supply-push distribution. Readers are notified via e-mail when an issue is available. All articles are stored on a central server at Warwick University. JILT publishes one volume a year each volume contains three issues. There is no limit to the number of articles published within an issue.

10.7. Market

JILT is designed primarily for legal academics but also considers legal practitioners, government and business institutes. Examining the published material

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[30]This is the first time that IT reviews appeared. It appears to replace the "applications" category.

(see table 10.1 above) indicates a hybrid of academic focus and practical interests. The circulation of the journal is open. Membership, password or access codes are not required. JILT is international in nature with emphasis on the United Kingdom and Europe.

JILT collected market information in 1996 and in 1997. A detailed demographic analysis of the access to the site can be found in Appendices G.4. and G.5. The information was collected for a period of one week after the publication of Issue 3 in 1996 and Issue 1 in 1997. From the analysis the following trends appear:

1. From 1996 to 1997, the number of user sessions accessing the site doubled[31].

2. In 1996 close to 51% of the user sessions were international and 31% from the UK. The rest are unknown.

3. In 1996, users from 31 different countries accessed JILT.

4. In 1997 the number of users from educational institutes decreased to 34% while the number of users from commercial sites increased to 61.27%. Access from governmental and nonprofit organizations barely counted for 1%.

5. In 1996 70.5% of user sessions were from educational institutions. 22% of the sessions were from commercial sites. Less than 1% of the users were from governmental institutes and less than .5% from non-profit organizations.

6. In 1997 the number of international readers increased slightly. 27.7% of user sessions were originated in the UK and 56% were international. The rest were unknown.

7. In 1996 the number of accesses of users from the UK was slightly higher than the number of users from the US. In 1997, the number of users form the US was one and a half times higher than the number of users from the UK. In 1997, readers from 43 different countries accessed JILT. However, 22 out of the 43 countries only had one or two sessions.

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[31]The access analysis for 1996 indicated 817 user sessions. The access analysis for 1997 indicated 1753 user sessions.

JILT has become an international journal with focus both in academia and in practice. JILT, is the only e-journal studied in this dissertation that maintains and publishes its market demographics. However, since 1997 no additional information is given on the nature and size of JILT's market.

10.8. Money

JILT was initially funded by the Electronic Libraries Program, which was established by the Joint Information Systems Committee in the UK. The initial commitment was for three years. To ensure continuation, the initial financial plan was to offer JILT as a subscription-based e-journal. The draft plan suggests three possible scenarios for library subscriptions:

TABLE 10.2

FUTURE FINANCIAL PLAN OF JILT

Scenario	Academician	Practitioners	Average	Minimum No. of Required Subscriptions
A	£120	£300	£210	282
B	£200	£300	£250	246
C	£200	£350	£275	224

These assumptions were based on an international subscriptions base. The initial plan also suggested a pay-as you-use plan for individual users. This business plan recognized the possibility that at the end of three years, the e-journal will still require external funding. In 1997/1998, the plan was revised based on evidence that

Internet users are reluctant to pay subscription fees for e-journals. There was also evidence that pay-as-you-use strategies may not be very successful.

The revised plan included support from commercial publishers, commercial companies (legal and other) and additional research funding. The plan also introduced the possibility of using advertisement as a financial resource.

Currently, JILT is free both to individual readers and to libraries. The costs associated with the production and distribution of JILT are estimated at $25,000 a year. These costs include the hardware, software and labor required in creating the journal. In addition, the UK University system indirectly supports JILT by providing Internet access and free academic time.

The journal is still funded by the Electronic Libraries Program and by a small grant from CTI Law Technology Center. The length of the commitment is unclear. It is also not clear how will JILT support itself in the future.

10.9. Management

Since the information for JILT was collected from external resources, it is difficult to understand and analyze some of the management practices involved. It appears that most of the management of the e-journal is done by professionals, thus, explaining the relatively high cost to produce the journal ($25,000 a year).

10.9.1. Sustainability

JILT management recognizes the need for long term sustainability of the journal. At the same time, as of August 1999, the editors did not take any particular measures to ascertain the long-term sustainability of articles. Articles are available

on-line and will be archived when necessary. However, in the event JILT is discontinued and the server retired, the articles may be lost.

10.9.2. Marketability

JILT is marketed internationally via:

1. An active mailing list

2. News groups

3. Professional associations and societies

4. Professional conferences.

Prior to its launch JILT was publicized using:

• Relevant newsgroups

• Conferences such as the annual conference of the Society of Public Teachers of Law and the International Conference on Substantive Technology in Legal Education at Montreal.

In cyberspace, JILT can be found using Internet-based search agents. Three searches on the combination "Journal of Information Law and Technology" were conducted using the following three agents: Excite, Lycos and Yahoo. The first search, using Excite, did not find a direct link to JILT. However, it resulted in an indirect link to the e-journal's home page via a site called "Law and Technology Links". The second search, using Lycos, resulted in a direct link to JILT home page. The third search, using Yahoo, resulted in no hits.

In the paper world, the editors stated that JILT is listed with secondary indexing services. A search on various articles and authors in ABI/INFORMS resulted in no hits. A search using the law libraries available in First Search resulted in a list of

book reviews published in JILT. None of the refereed articles could be found using either OVID or First Search.

Despite a minimal apparent marketing campaign the readership of JILT grew substantially in the first two years of its existence (see Market above).

10.9.3. Accessibility

As of August 1999, JILT utilization of the technology is minimal. The articles are organized in a linear manner and are easy to print. Therefore, accessibility should be relatively easy for both expert and novice users of Web technologies. JILT is free and does not require subscription, user-id or a password to access. The aim was to provide any time, any place access to the journal with minimal obstacles. Currently, a reader has to go through three Web pages to get to the table of contents. One of the pages could be eliminated easily. It only contains one hyperlink: Content.

Using an SDSL line (384K download) with a Pentium 586 and Netscape 4.5, the JILT site was accessed in about 5 seconds and articles were accessed in 5-12 seconds depending on size. Using a 56K modem with a Pentium 586 and Netscape 4.5, the site was accessed in less than 10 seconds and articles were accessed in 5-30 seconds depending on their size. Access using older technology (a 486 DX266 PC, with Windows 31.1 and Netscape version 2.0) was not tested since the service provider used previously, no longer supports Winsock[32] connectivity.

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[32]Winsock is the protocol used by Netscape versions 2 and 3 to connect home PC to an ISP.

10.9.4. Timeliness

The mean cycle time from submission to publication is approximately two months. The time spent on the review process is approximately three weeks. Articles are fully refereed using traditional double-blind review. The review process includes two reviewers. Each reviewer is provided with review forms and a set of review instructions. To achieve a quick and efficient review process, the process is completely electronic and referees are enabled to enter into anonymous communication with the authors. Thus, reviewers are able to clarify issues and questions immediately. In addition, stand-by referees are available when original referees are unable to complete the review in a timely manner. Articles are published periodically, introducing an additional delay. [33] The reason for the periodic publication is to limit the number of notices the journal has to send to its mailing list. There is no limit to the number of articles published in each issue, thus avoiding a backlog of accepted articles.

Occasionally, JILT posts news and breaking stories as they appear. However, the site does not have any special indication that distinguishes or highlights these new postings nor is there a notification mechanism in place.

In summary, JILT was able to reduce the publication cycle time compared to comparable p-journals while maintaining high quality refereeing.

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[33] An issue is published every four months. Therefore, on average an article is delayed two months due to the publishing cycle.

10.9.5. Priority Claims and Copyrights

The date an article is posted on the Internet can be used to assure priority claims. JILT resembles a print journal in the sense that its articles are static in nature. JILT maintains versioning control. Modified articles are posted as a new version and marked as such. In place corrections are not allowed. Therefore, there is little concern that the chain of citations will be corrupted.

The authors maintain limited copyrights to their articles. As stated in the copyrights statement in JILT (appendix G.2): "Except as otherwise noted copyright in all contributions remains with the authors. The Journal of Information, Law and Technology (JILT) holds exclusive rights in respect of electronic publication and dissemination. The Journal may not be posted or in anyway mirrored on the WWW or any other part of the Internet except at the official publication sites at the Universities of Warwick and Strathclyde."

10.9.6. Managing Reputation

Managing the reputation of JILT is relatively easy since the e-journal is associated with a countrywide campaign to promote digital libraries and e-journals.

JILT editors manage the journal's reputation via the following:

1. An extensive publicity campaign (section 10.9.2)

2. The establishment of a highly reputable, international advisory and editorial boards (see appendix G.1)

3. Utilizing the journal's association with the Electronic Libraries Program

4. Soliciting articles from highly regarded authors

5. Ensuring the publication of high quality refereed articles

6. Rigorous refereeing process

10.9.7. Managing the Direction

JILT has several conflicting goals. JILT tries to establish itself both as a high quality refereed journal and as a journal that publishes non-traditional work. Therefore, managing its direction requires some work. In order to create a hybrid product, the table of contents is designed to allow easy access to both interest groups. The articles are divided based on the type of material they represent. Academicians do not have to search through long lists to find refereed articles and practitioners can easily find the practical essays they might be interested in. Initial issues used graphics representation to accomplish this goal while later issues use frames.

10.10. Mannerism

10.10.1. Look and Feel

Over the years, JILT reduced the amount of multimedia in its presentation and now has more a look and feel of a paper journal than it did in the beginning. The initial issues used a graphical table of content, later issues used frames and current issues use a sequential, traditional table of contents. The structure of the articles is linear thus allowing easy printing. Most links are Internal. There are several external hyperlinks. JILT uses an automated link checking software to ensure that a high percentage of the external links are resolved. Two reasons are cited for the decrease in electronicity:

1. The increase in international access and the need to support it

2. A response to readers suggestions for a clearer design and a need for a full table of contents

10.10.2. Perceived Quality

JILT's editor relies on the reputation and prominence of the Electronic Libraries Program in the UK. The program promotes e-libraries and e-journals throughout the United Kingdom and ensures an increase understanding and acceptance of e-journals, thus, eliminating some of the need to manage perceived impressions. The JILT editor indirectly manages the journal *perceived quality* in the following ways:

- JILT increasingly adopts a look and a feel of p-journals (see section 10.10.1).

- JILT uses automated links search and markup software to ensure that all external links are resolved or removed to reduce the perceptions of unreliability.

- The advisory/editorial board consists of established scholars.

- JILT publishes demographic information about its increasing readership.

- JILT won the inaugural Charlesworth Group Award for Electronic Journals.

- JILT published a readers and authors survey stating strong positive perceptions.

- An increasing campaign of promotion and publicity of the journal via conferences, and via the Electronic Libraries Program.

JILT maintains an acceptance rate of about 20% out of 8 monthly submissions. These numbers correspond with the acceptance rates of traditional, high quality nonscientific journals.

10.10.3. Tenure Committees

JILT did not institute any formal measures to increase acceptance or to market the journal to tenure committees. The editor's assertion is that tenure committees already know about the journal. This assertion is based on the publicity of the Electronic Libraries Program and on the different tenure process in Europe.

10.10.4. Gatekeepers

No information is available on this topic.

10.10.5. Managing Change

One of the challenges facing the editor of JILT was the skill set required to implement an electronic journal. The editor found that the skill levels required from some of the staff were higher than anticipated and some other required skills (such as graphical skills) were not anticipated at all. After several months, JILT had to hire additional staff to achieve the needed expertise required to publish the journal. However, reviewers were willing to use electronic communications during the review process.

10.10.6. Global Access

JILT editors are aware that not all readers have the latest, state-of-the-art technology. Formally, there is no active program or an announced policy to increase accessibility to underdeveloped countries. At the same time, the design of the e-journal and its table of contents shifted from using graphics, colors (in 1996/7) and frames (1998) to a simple, sequential table of contents (1999). This shift indicates some consideration for readers with limited technology. In general, most articles use limited multimedia and thus are accessible to users with a variety of technologies.

10.11. Summary

JILT was established to support a hybrid market: academic and practical. With the support of the Electronic Libraries Program, JILT does not face major obstacles

in its attempts to establish a reputation, a positive *perceived quality*, market share and international recognition.

JILT is managed and administrated by professional staff. Professionalization results in more accomplished management practices such as market and readership analysis, surveys of stakeholders (readers, authors and libraries), promotions and marketing campaigns.

Yet, JILT's financial status and long term sustainability are questionable. The cost to publish is high (relative to other e-journals) and the length of the current financial commitment of its sponsors is limited to one more year.

CHAPTER 11

CASE STUDY 6: IS FRONTIERS (ISF)
http://www.som.buffalo.edu/isinterface/ISFrontiers

11.1. Preface

The journal Information Systems Frontiers (ISF) is a Journal of research and innovation. It is predominantly a paper journal although subscribers to the p-journal can also access an electronic version at a premium. This newly founded journal with limited Web presence is included in the study as a control. It is used to:

- Compare the relatively new five e-journals studied to a new p-journal on factors such as reputation, marketing and inclusion in secondary indexing services

- Establish a baseline for parameters such as submission rates, acceptance rate, refereeing time, and cycle time

ISF is used as an example of co-existence of a p-journal with online presence in the between case analysis in chapter 12.

11.2. Data Collection

Data for ISF was collected from the following resources:

- An initial set of questions (see appendix A.3) was answered by one of the founding editors

- Examination of the journal's inaugural issue, statement and articles published in December 1999

- A phone interview with one of the founding editors

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- A phone interview with the publisher

- An examination of the journal's Web site

In this case the general checklist found in appendix I, was followed to the extent that it applied to this p-journal.

11.3. Introduction

ISF was initiated in response to the need to understand the frontiers of IS and IT both academically and industrially.

The main objectives of ISF are to establish an IS journal that will (for a complete vision statement see appendix H.2):

- Combine academic and industry research

- Create a link between academicians, practitioners and industry R&D

- Focus on the multi-disciplinary interfaces involved in IS research

- Foster innovative research in IS

- Focus on leading edge technologies and organizational solutions

- Encourage and support a futures-oriented stance on IS research

The orientation of ISF is described as (Ramesh and Rao 1999, p. 5): "Integration of research with practice, focal attention on the cross-fertilization of ideas occurring across disciplines and adequate and appropriate Internet support for effective information exchange and interaction."

ISF has no announced page or space limits although issue size is limited to a maximum of 10 articles. Since ISF is a paper journal the use of "electronicity" is not applicable. The following discussion examines ISF in terms of the eight-M framework.

11.4. Material

ISF material includes the following:

- Scholarly peer reviewed articles

- Industry research

- Practical research

- Laboratory experiments

- Consulting reports

- Technical reports

- Application oriented reports

Each yearly volume is scheduled to include 3 topic-focused issues to be compiled by guest editors and one general issue to be compiled by the founding editors.

Table 11.1 lists the set of articles and their type published in the inaugural issue of ISF.

TABLE 11.1

ARTICLES PUBLISHED IN THE INAUGURAL ISSUE OF ISF, DECEMBER 1999

Article No.	Name	Type
1	Team Theory and Distributed Processing: Surprise Attack	Normative
2	Using Scenarios to Understand the Frontiers of IS	Scenario Building
3	Manufacturing in the Digital Age: Exploiting Information Technologies for Product Realization	Case study
4	Research Frontiers in Object Technology	Empirical
5	Digital Libraries for the Next Millennium: Challenges and Research Direction	Literature survey/theoretical
6	Electronic Commerce: Review of Critical Research Issues	Speculative/theoretical
7	The Informatics Policy in India	Case study

ISF solicits material using several channels:

1. Call for papers on the Internet

2. Call for papers through affiliated societies

3. Invited papers

4. Invited journal versions of outstanding papers given at conferences (future)

11.5. Mode, Medium and Means

Since ISF is predominantly a print journal, the primary medium used is paper. However, using the publisher's electronic access, licensed institutions may view article abstracts in HTML form and full text articles in PDF form.

ISF's Web site is used to promote the journal in cyber space. The site contains a list of published issues, table of contents for each published issue and ordering information. In the future, ISF intends to use its site to promote interactive communication among its readers.

ISF accepts basic text format, black and white graphs, tables and diagrams. ISF is distributed using traditional supply-push distribution. Subscribers receive four issues a year.

11.6. Market

ISF is designed to integrate academic and practical innovative research. The journal is tailored towards the following markets:

1. IS academicians interested in innovative IS research and the future of IS

2. IS practitioners interested in the implementation of future technologies

3. Industry research and development experts interested in IT developments

4. Interdisciplinary academic researchers conducting research in areas related to IS

5. Practitioners outside of IS who are interested in the integration of IS and other disciplines

ISF printed an initial issue of 2000 copies for promotional distribution. It anticipates an increase of 40 library subscriptions a year. The subscription base is estimated to reach 200 library and 1000 individual subscriptions in the next five years.

11.7. Money

ISF is funded by Kluwer Academic Publishing. The publisher funded the entire project and invested the money needed up-front. The journal is fee-based. Table 11.2 describes the fee structure of ISF.

TABLE 11.2

THE FEE STRUCTURE OF ISF

Subscriber Type	Subscription Fee
Individual subscriber	$60 a year.
Paper based institutional subscription	$308 a year
Combined paper and online institutional subscription	$360 a year

As of January 2000 ISF did not have a reduced pricing for special groups (such as professional societies). ISF does not provide reduced pricing for individuals in underdeveloped countries. The initial investment (the cost to create the first copy) is estimated at approximately $200,000. According to the publisher, ISF is anticipated

to break even within 3 to 5 years. Much of the initial cost is part of the ongoing operational cost of Kluwer. Other costs are attributed directly for ISF. Table 11.3 describes the cost breakdown. Note that most of the cost is in staff time and ongoing operational cost.

TABLE 11.3

COST BREAKDOWN OF ISF

	Initial Cost	Ongoing Cost
Marketing	$15,000 for direct mailing + cost of marketing staff	Diminishes with time
Editing	In place staff. Part of ongoing operational cost	Part of ongoing operational cost
Production cost	$10,000 for the first copy. Logo was donated	$5,000 an issue (includes conversion to SGML and PDF)
Hardware	No additional investment required	Part of ongoing production cost
Software	No additional investment required	Part of ongoing production cost

The university that houses the two current editors indirectly subsidizes ISF. This subsidy is relatively small. The editorial work is done as part of the editors' service to the academic community. The editors were not granted reduction in teaching load by the university. The editors also use university resources for correspondence, secretarial work, storage, copying and other administrative tasks. The university subsidized an assigned graduate assistant.

11.8. Management

ISF is managed by Kluwer Academic Publishing. Kluwer Academic Publishing publishes over 400 academic journals and thus can be considered an expert and a

professional in the management of traditional academic journals. Therefore, their practices can be used when comparing management practices in e-journals to traditional management practices.

11.8.1. Sustainability

ISF is a paper journal. Libraries keep physical copies. As with all other printed material, copies of volumes are kept in the Library of Congress.

11.8.2. Marketability

ISF is a multidisciplinary journal. As such, it was important to market it via multiple channels. For example, if ISF was to be marketed solely via ISWORLD, there is a good chance that academicians, practitioners and industry researchers outside the IS discipline would be unaware of its existence. By using Kluwer Academic Publishing's traditional marketing mechanism, ISF's editors ensured a wide range and multidisciplinary marketing campaign.

Kluwer Academic Publishing has an extensive network of marketing and sales. The publisher has a large global distribution network with centers in various countries. Each center hosts 4 to 5 sales managers. The sales managers call on libraries and on wholesale distributors (agents). The agents visit both academic and corporate libraries on a continual basis, handing out free copies of new journals and other promotional material. ISF is promoted via the following means:

1. Kluwer Academic Publishing maintains an extensive mailing list. The list contains:

   - Scholars who purchased academic material from the publishers such as individuals, libraries, research institutions and other interested parties

- Members of relevant association and professional societies

2. Prior to the inauguration of ISF, a mailing list of about 10,000-20,000 recipients was compiled. An announcement letter was sent to all members on the mailing list. The response rate was approximately 3%. Respondents received a free copy of the inaugural issue. A more limited list of scholars received a call for papers announcement.

3. Kluwer Academic Publishing traditionally has a booth at conferences and professional meetings, which is used to promote material. For example, a representative from Kluwer Academic Publishing distributed copies of the inaugural issue of ISF during the International Conference on Information Systems held in December 1999 in Charlotte, NC, allowing IS researchers the opportunity to examine the journal, its content and its quality.

4. Prior to the initiation of ISF, Kluwer's marketing force did a market analysis. As part of the analysis a core of 200-300 academicians that believed in the need for a journal such as ISF was gathered. This core of believers is used to market the journal using a word-of-mouth approach.

5. As soon as possible (approximately after 2 years), ISF will be included in secondary indexing services and citation analysis services. Until then Kluwer Academic Publishing will maintain its own citation index for ISF.

These marketing efforts are ongoing. However, they diminish over time. By the third year most of the marketing is left to the sales managers and the sales agents at the various Kluwer marketing centers.

In cyberspace, as of January 2000, ISF could not be found using the Internet-based search agents used in the study. Three searches on the combination "Information Systems Frontiers" were conducted using the following three agents: Excite, Lycos and Yahoo. None resulted in direct hits. The only indirect link to the ISF homepage was found via the Kluwer Academic Publishing homepage. However, according to the editors, ISF could be found using Hotbot, Snap and Alta Vista.

In the paper world, ISF is not listed with secondary indexing services since it is a new journal. Secondary indexing services require a journal to be in publication for at least two years before references to articles can be posted.

ISF is well marketed in the traditional publishing world. However, it does not fully utilize the existence of the Internet and search agents for additional marketing.

11.8.3. Accessibility

For the most part the access to ISF is limited to individuals that pay the annual subscription fees and to members of universities either via an institutional subscription or via the traditional Inter Library Loan (ILL) system. Access to copies of ISF imposes geographical and temporal restrictions. Universities with subscription to the on-line services of Kluwer Academic Publishing can provide an electronic version of all articles, thus providing any time any place accessibility for members of their academic community.

11.8.4. Timeliness

The mean cycle time from submission to publication of the paper version for the inaugural issue was approximately one year.[34] The mean cycle time from submission to the publication of the electronic version is approximately six months. The future plan is to reduce the electronic publication cycle time to 4-5 months. On average each paper was with the author for approximately two months for revisions. Articles are fully refereed using traditional double-blind review. The review process includes two reviewers and an executive editor. The final decision is made by the editor-in-chief. On average, the review process takes three months. ISF utilizes Information Technologies partially. Some reviewers use electronic versions and e-

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[34]This cycle time is comparable with MISQ Discovery and FIS. Both are fully refereed journals. JILT claims much faster cycle time and is also a fully refereed e-journal.

mail or the Web to review articles and communicate with editors. Other reviewers prefer paper submissions and traditional mail for communication. Thus far there was no major difference in the response time between the two types of referees. Issues are published at fixed intervals, introducing an additional delay between acceptance and publication. The maximum number of articles per issue is 10. As of January 2000, ISF did not have a backlog of accepted articles. However, as the journal matures and the number of submissions increases, an accepted article backlog might create additional delay.

ISF was able to reduce the publication cycle time in the electronic version of the journal but not in the paper version. If the number of accepted submissions increase, and with it the backlog, the difference in publication dates between the paper version and the electronic version will become significant. Such a difference might create confusion among readers. Citation dates will vary and readers will have access to the material at significantly different times depending on the type of subscription they carry.[35]

11.8.5. Priority Claims and Copyrights

The date an issue is published is the date used to assure priority claims. ISF is a print journal and articles are cited using the traditional volume, issue, and year scheme. In place modifications or possible corruption of the chain of citations as in an e-journal are not possible.

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[35]For example a scholar in a university that carries the Kluwer Academic publishing on-line subscription might cite an article as appearing in June, while a scholar with an individual subscription might not see this article until January of the following year.

ISF follows the copyright laws in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 20, 1974. Under these copyright laws, authors relinquish their right to the material published to Kluwer Academic Publishing. The publisher has the right to collect any sum for the copying or reproduction of the material.

ISF is a member of the Copyright Clearing Center (CCC). Users registered with the center are allowed to make copies of articles for personal or internal use. Kluwer Academic Publishing charges a fee of $9.50 per item copied.

11.8.6. Managing Reputation

Managing the reputation of ISF is somewhat difficult since the editors do not carry the same fame as some of the senior professors and founders of the IS discipline. Thus, they do not enjoy the kind of standing and celebrity that will draw readers instinctively. ISF editors took the following measures to increase the reputation of the journal:

1. An impressive inaugural issue featuring a Nobel Prize winner author in the very first article. The editor interviewed deemed the first issue as critical since it establishes a first impression that is hard to change later.

2. The establishment of a highly reputable, international advisory and editorial boards. The editorial board integrates highly published academicians with highly regarded industry researcher such as Dr. Mukeherjee, a chief scientist for Philips research labs. A complete list of the editorial board can be found in appendix H.1.

3. Utilizing the journal's association with the Kluwer Academic Publishing (also see marketing above)

4. Soliciting articles from highly regarded authors

5. Ensuring the publication of high quality articles

11.8.7. Managing the Direction

ISF is targeting a niche. The vision is to look at the interdisciplinary interfaces of IS (for more details see appendix H.2) To accomplish this vision ISF has to manage several innovative and conflicting goals:

1. ISF tries to establish itself both as a high quality refereed journal and as a journal that publishes non-traditional and practical work. Therefore, managing its direction requires some work. To create an integrated journal, ISF solicits articles from practitioners, industry researchers and academia. The editorial board includes members from both academia and practice.

2. ISF is an interdisciplinary journal. To maintain high levels of interest among readers from various disciplines ISF established a policy of three special issues a year each addressing a specific topic.

11.9. Mannerism

11.9.1. Look and Feel

As a paper journal, ISF maintains a traditional look and feel. The use of multimedia is minimal and the articles are sequential in nature even in the on-line version of the journal. ISF requires authors to submit manuscripts formatted in a traditional manner. Authors instructions can be found in appendix H.3.

11.9.2. Perceived Quality

The main reason ISF was established as a paper journal rather than an e-journal is to increase its *perceived quality*. Two factors had to be considered:

1. The innovative nature of the content published

2. The relatively low visibility of the editors

The editor interviewed felt that the current legitimacy of p-journals is much higher than that of e-journals. To establish a new e-journal one needs a highly visible and reputable editor. The *perceived quality* of ISF is managed in the following ways:

- ISF is predominantly a paper journal. As such it is tangible, visible, easy to browse, and its physical existence makes it easy to show and display.

- ISF is aggressively marketed via the traditional channels of Kluwer Academic Publishing.

- ISF has a relatively low acceptance rate. The inaugural issue had an acceptance rate of 50%, following issues had acceptance rates of 35%. The anticipated acceptance rate in the future will go down to about 20% which is the norm for highly reputable IS journals.

- The appointment of established scholars and industry researchers to the editorial board

- The active involvement of a Nobel Prize winner

11.9.3. Tenure Committees

ISF did not institute any formal measures to market the journal to tenure committees. The assertion is that ISF is a traditional paper journal and tenure committees will be appraised of its existence through the traditional channels used by Kluwer Academic Publishing.

11.9.4. Gatekeepers

ISF faces a dilemma. On one hand it is proposed as an innovative and integrative journal. On the other hand it tries to maintain high quality of material and low acceptance rate. To accomplish this vision ISF established an editorial board with members from various disciplines ranging from economics, to IS to Operations Research to sciences. Thus, ISF eliminated one narrow gatekeeping policy as is

customary in discipline specific journals. Referees are also expected to demonstrate vision, innovation and creativity. The vision of the journal is to try to improve papers with worthwhile ideas. Gatekeepers and referees are expected to add value to the articles by working with the authors, rather than to be used strictly as a filtering mechanism. However, as the number of submissions increases, this vision might weaken. With a large number of articles to choose from and with increased load, gatekeepers might resort to the traditional high rejection rate of manuscripts that do not conform to the norms.

11.9.5. Global Access

ISF is an international journal. Despite the fact that the shipping costs to remote locations are higher, the subscription fees are the same (and include shipping and handling). This approach allows equal access globally. However, individuals and universities in poor countries may not have the needed budget.

The on-line version of ISF uses very little electronicity and articles can be printed out easily. Therefore, scholars in underdeveloped countries can access and use print copies of the articles even if it takes longer to download the initial copy.

11.10. Summary

ISF is a new IS journal. Unlike many new journals it was established as a paper-based journal rather than as an e-journal. ISF's vision is to integrate innovative, practical, and academic research in IS and inter-related disciplines. To accomplish this unique and complex vision and to establish a highly reputable journal, the editors felt they needed to stay within the traditional medium of paper.

ISF is managed and administrated by professional staff at Kluwer Academic Publishing. As a result, ISF uses sophisticated management practices such as active marketing campaigns, clear vision, and well established copyright policies.

CHAPTER 12

BETWEEN CASES ANALYSIS

The case studies indicate the diversity of e-journals and point to alternative directions in which these journals may head. For example, FIS is a paper-like e-journal that uses the Internet as a delivery medium to overcome the economic constraints of p-journals. It maintains a look and feel of a p-journal in order to increase social acceptance. MISQ Discovery, on the other hand, is an example of an e-journal that strives to use the multimedia capabilities of e-publishing. Table 13.1 in chapter 13 compares the six cases in terms of the 8-M framework.

To put structure on the analysis, this chapter uses the scenario planning technique (Coats 1998, Ringland 1998) to show the range of alternative directions. Each scenario carries within it examples from the cases (chapters 6 through 11). The chapter uses scenario-building techniques rather than attempt to create a single output for the following reasons:

1.   AEP is in its initial stages. Its long-term direction is not yet known.

2.   The technology that supports AEP changes rapidly.

The direction of AEP depends on economic, social and policy choices. A single model assumes an implementation of a particular set of choices.

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12.1. E-Journals Scenario Space

For e-journals to become part of the mainstream of academic publishing, they need to be accepted by authors, readers, T&P committees, and gatekeepers. E-journals also should be equally available to all readers who have access to the Internet. In addition academia has to solve a set of issues, labeled "universal issues" (sidebar 12.1). These issues (infrastructure reliability, long-term sustainability, and backward integration) are not case related or scenario dependent. They emerged from the case studies and are related to all AEP.

Sidebar 12.1 Universal Issues

The implementation of Academic Electronic Publishing depends on the solution to several issues that are case independent:

1. *The reliability of the infrastructure*: Currently paper is the basic infrastructure to deliver and share knowledge. Paper has been a reliable medium. Once an individual has a paper copy of an article and files it, it is always available and accessible. The Internet has not been a reliable medium so far. In many cases sites are unavailable, links are unresolved and images are inaccessible. Improvements in infrastructure, such as promised by Internet II, may resolve this issue.
2. *Long term sustainability*: Paper copies of articles are sustained via the Library of Congress. Currently, there is no similar repository for e-articles. When e-journals expire, the published work expires with them. There is a need to create an electronic version of the Library of Congress that will ensure the long term existence of e-articles regardless of whether the respective e-journals have survived.
3. *Backward integration*: Information technology changes rapidly. Most IT is only supported for 5-7 years. E-articles that are created using a given technology need periodic conversion or continuous support via a central support center.

Note: Unintended Consequences are discussed at the end of the chapter.

From the analysis of the six cases (Chapters 6 through 11), one clear factor that impacts the success and future penetration of AEP emerges, the economic viability of the journal. A journal's economic viability depends on six of the eight M's (Medium, Means, Material, Mode, Market and Money) in the 8-M framework. The other two M's (Management and Mannerism) combine into a second factor, labeled social acceptance.

The economic viability of a journal is defined as the journal's ability to sustain itself economically. An e-journal is not economically viable if:

- It is cheaper to produce and distribute a p-journal than an e-journal

- The conversion from paper to electronic medium is costly (assuming a p-journal already exists)

- The journal has inadequate funding to sustain itself.

The economic viability of an e-journal depends on six of the 8 M's:

1. The cost to create and distribute an e-journal depends on the cost of the **Medium** and the **Means** of distribution. The current assumption is that the Internet will remain a free medium. This can change in the future. Thus reducing free e-journal long-term economic viability.

2. Increases in **Mode** and **Material** require higher bandwidth, larger storage capacity, and a more expensive skill set. Most e-journals studied did not use high levels of electronicity. However, JILT reported the need to hire a high skilled graphical designer that cost more than the initial budget called for. Other e-journals (CAIS, MISQ Discovery) that use relatively high levels of electronicity did not hire external skills. These are Information Systems journals and have access to internal source of skills (e.g. students, professors).

3. **Money** deals with the cost and fee structures of an e-journal. Three of the e-journals studied have indeterminate financial support. JILT has available funding for one year (as of August 1999), FIS is supported by a research fund and the duration of JEP's financial support is unclear. MISQ Discovery and ISF are supported by paper based structures. The only e-journal supported by external, long-term financial arrangement is CAIS.

4. Since most e-journals are currently distributed free of charge, an increased **Market** does not increase incoming funds and thus does not impact economic

viability. A major increase in readership, however, increases distribution cost. For example, CAIS serves the approximately two thousand members of AIS. As stated by the publisher of CAIS, with an average of few hundred or even two thousand hits per month CAIS can be maintained on an existing server and accessed using existing networking infrastructure. If CAIS readership increased to, say, ten thousand readers, the publisher would have to consider a major upgrade to the hardware that supports the journal. Thus, increased readership impacts the economic viability of an e-journal if the capacity of the journal's existing infrastructure (e.g., FIS, JEP, MISQ Discovery) is limited.

From the analysis of the six cases studied, it is less clear that social acceptance depends on Management and/or Mannerism since social acceptance is harder to measure. However, the description below uses domain knowledge to explain why Management and Mannerism impact acceptance.

1. The **Management** practices established by the editors of an e-journal determine the journal's acceptance. Journals that have a clear direction and focus on a niche market (FIS), a niche product (JEP) or a unique material (CAIS) have higher stream of incoming publishable material. Extensive marketing (JILT) increases awareness and brand name. E-journals that are managed to provide some of the anticipated benefits (table 1.1) of e-publishing are more readily accepted by academician pushing for these changes (i.e., reduced cycle time, increased any-time-any-place accessibility).

2. **Mannerism** also impacts acceptance. High perceived quality, high T&P rating, an active campaign to inform schools of the existence of the journal (CAIS, JILT), and support of variety of infrastructure and technological capabilities, increase social acceptance.

The six cases studied lead to the formulation of a set of universal issues that are not journal dependent. These issues are discussed in detail in sidebar 12.1. The **reliability** issue was discovered while doing site analyses. External links were found missing and sites were unavailable periodically.

The issue of **backward integration** was addressed while experimenting with older technologies. E-journals with higher levels of electronicity (MISQ Discovery, CAIS) were not fully accessible using older versions of hardware and Web browsers.

The **sustainability** issue relates in part to the short-term financial arrangements of most e-journals. It is also a global issue that cannot be resolved by an individual journal.

Figure 12.1 depicts the two factors, the universal issues and their relationships with the success and penetration of AEP.

The research model proposed in this dissertation is shown in Equation 12.1. The model is the following functional form:

Penetration/success of AEP = f (Δ economic viability, Δ social acceptance, Δ solutions to universal issues) **(12.1)**

This dissertation assumes a steady increase in technological capabilities similar to the one we have been experiencing in the last decade. A radical discontinuity in technology in the next five to ten years might create a completely different set of scenarios from the ones described below.

The research model in figure 12.1 implies 8 possible combinations of the three factors, depending on whether each Δ goes up or goes down. The eight combinations are listed in table 12.1.
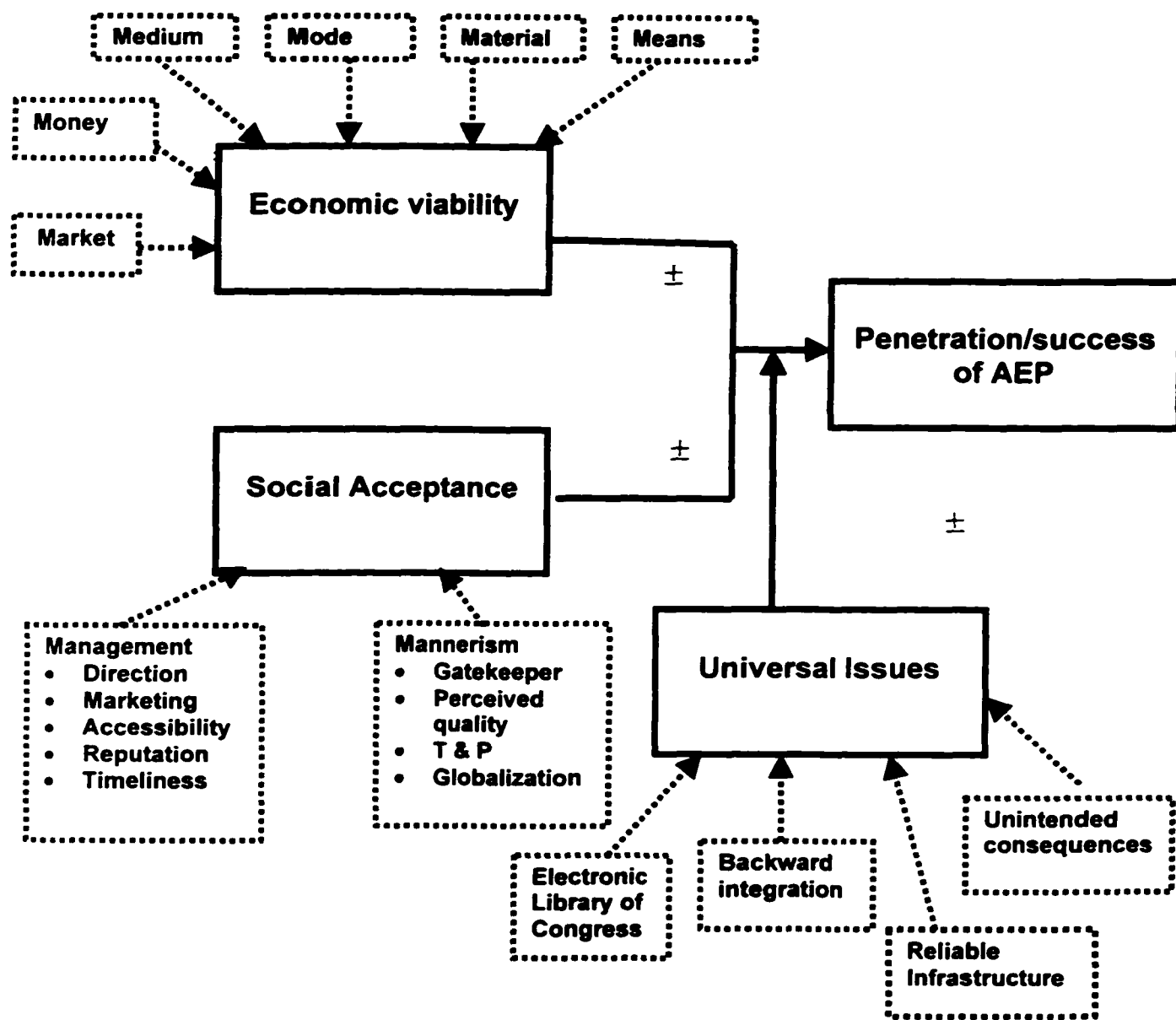
Figure 12.1. Research model

TABLE 12. 1

EIGHT POSSIBLE COMBINATIONS

Combination Number	Economic Viability	Social Acceptance	Universal Issues[36]	Scenario Name
1	-	-	-	Status-Quo
2	-	+	-	Co-existence
3	-	+	+	Co-existence
4	+	-	-	Replacement
5	+	-	+	Replacement
6	+	+	-	N/A
7	-	-	+	N/A
8	+	+	+	Ubiquitous acceptance

In this table, a plus indicates the problem (be it economic viability or social acceptance or universal issues) is fully resolved whereas a minus indicates that the problem is either unsolved or only partially solved.

Combinations 6 and 7 are not internally consistent. In combination 7, if AEP is not accepted socially and is not economically viable then it would be unlikely to address the universal issues. Combination 6 presents an opposite case. Despite economic viability and social acceptance universal issues are not solved. If they are, we are describing combination 8. Alternatively, if AEP is socially acceptable (combinations 2 and 3), it will co-exist with p-journals, while if it is economically viable (combinations 4 and 5), the savings are sufficient to cause p-journals to be replaced.

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[36]Universal issues are only applicable to combination number 8. In all other combinations they are unimportant since journals rely on paper versions or other infrastructure for long-term sustainability, reliability and backward integration.

Combinations 6 and 7 are not internally consistent. In combination 7, if AEP is not accepted socially and is not economically viable then it would be unlikely to address the universal issues. Combination 6 presents an opposite case. Despite economic viability and social acceptance universal issues are not solved. If they are, we are describing combination 8. Alternatively, if AEP is socially acceptable (combinations 2 and 3), it will co-exist with p-journals, while if it is economically viable (combinations 4 and 5), the savings are sufficient to cause p-journals to be replaced.

Therefore, of the 8 possible combinations, only four are viable and unique in terms of their economic viability and their social acceptance (table 12.2). Two of the scenarios are pure and two are mixed scenarios.

TABLE 12.2

SCENARIO SPACE

		Economic Viability	
		Low	High
Social	Low	Status-Quo	Replacement
Acceptance	High	Co-existence	Ubiquitous

Pure Scenarios:

- *Ubiquitous.* Ubiquitous acceptance of AEP including both global acceptance of e-publishing and high economic viability.

- *Status Quo.* The opposite scenario assumes an increase in Internet cost and inability to charge for e-journals thus reducing the economic viability of AEP and low social acceptance. In this scenario AEP will disappear for the most part.

Mixed Scenarios:

- *Replacement.* AEP consists of e-versions of paper articles. In this scenario the use of "electronicity" is minimal (due to low acceptance) and the medium of delivery is electronic (due to its economic viability)

- *Co-existence.* Co-existence of e-journals and p-journals much like the ACM libraries and Kluwer online. Despite the acceptance of e-journals by the academic world, publishers maintain p-journals as their main source of income and support electronic ventures financially.

The four scenarios are described in the increasing order of their "electronicity."

12.2. Scenario I - Status Quo

This scenario is based on the assumption that the economic viability of AEP declines and the acceptance of AEP is minimal. The cost to distribute on the Internet increases due to new Internet fee structures, increasing costs to maintain the infrastructure within the university, and increasing costs to deliver material electronically to students and libraries. At the same time, e-journals are not able to charge for service because university users, believing that Internet delivered services should be free, refuse to pay subscription fees. The dissemination is minimal. E-journals remain an experimental venture.

In this scenario the status quo remains. For the most part, the **material** remains the traditional research paper. Space restrictions force authors to a minimal amount of information. The **medium** of delivery is paper. The **means of distribution** is physical using mail services. Articles are bundled into issues and delivered periodically. The **modes** are limited to text and 2-D graphics with almost no use of

color or pictures. The **market** continues to shrink and is limited to academia (researchers, professors, and students).

The **economics (money)** of e-journals is a primary driving force in their disappearance. In this scenario the cost to produce e-journals, increases due to the following:

- E-journals are no longer a novelty and cannot be supported by research funds. Thus, subsidized e-journals such as FIS and JILT lose their source of funding.

- Increased cost to access the Internet

- Increased cost of support staff because the staff, previously volunteers or graduate students, must be paid for their specialized computer skills.

- Commercial entities (such as corporations and commercial publishers) are not interested in subsidizing e-journals because they see no long-term markets for themselves.

E-journals remain free. Readers are unwilling to pay for Internet-based information and it is difficult to create a paying readership base for e-journals as was experienced by JILT.

The **management** of academic publishing remains traditional. Journals evolve slowly. Copies are kept at the Library of Congress, ensuring long-term sustainability. Copyrights remain with the publishers and current citation analysis methods prevail. The cycle time is somewhat reduced due to the use of electronic communications capabilities during the submission and refereeing process. However, cycle time remains an issue especially for fast evolving disciplines such as IS. The reputation of e-journals is very low. Therefore, scholars choose to publish their best work in p-journals leading to the demise of e-journals. Marketing efforts remain in the physical world similar to the marketing approach taken by ISF. Accessibility is limited geographically and temporally.

The low **social acceptance (mannerism)** of e-journals is another reason for their decline. The perceived quality of AEP remains low despite attempts to create highly reputable e-journals. Gatekeepers object to the introduction of e-journals as mainstream research outlets. The look and feel of the few e-journals that remain is the same as current p-journals. T&P committees consider only p-journals in the promotion process, devaluing e-journals. Global access remains the same. The cost to ship to remote locations is high and the delivery time long. However, underdeveloped countries have the same access to journals as developed countries, except for the time delay caused by the physical delivery.[37]

Summary of Scenario I

In this scenario, academic publishing remains paper based, as it has been for the last three hundred years. E-journals appear as experimental, short-lived phenomena, use minimal electronicity, are not accepted and cannot sustain themselves financially.

Proposition I: Poor economic viability of e-journals and lack of social acceptance of e-articles result in low penetration of AEP.

12.3. Scenario II - Replacement

This scenario is based on the assumption that the economic factors of academic publishing drive publishers towards e-journals. The need to reduce production and

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[37]Distant countries or countries with slow postal services experience longer delays in receiving printed material. However, once the material arrives they have the same accessibility as developed countries. Therefore, it is possible that a university in a developed country such as Australia will experience an equal delay to a university in an underdeveloped country such as the Philippines for a journal published in the United States.

distribution cost coupled with the ability to charge for e-journals lead publishers to replace p-journals with electronic ones. The low social acceptance of e-journals forces low levels of electronicity and traditional look and feel. The Internet is used only as a delivery mechanism. But to maintain a p-journal look and feel, none of its other capabilities are used. An example of such a journal is FIS.

In this scenario the **material** remains the traditional research paper. Articles are sequential in nature so they can easily be printed and presented as if in a paper form. The **medium** used is the Internet. The **means of distribution** is electronic push distribution. Articles are bundled into issues and delivered periodically to eliminate information overload and to allow traditional referencing. The **modes** are limited to text and 2-D graphics with minimal use of color or pictures. The **market** remains small and is limited to academia (researchers, professors and students).

The **economics (money)** of academic journals are driven by the following changes:

- Postage fees increase and the quality and reliability of postage services decrease.

- The cost to use the Internet goes down in real terms.

- The availability of the required infrastructure to access e-journals increases

- Universities are eager to reduce libraries' real estate cost by reducing the amount of space required to store paper journals.

- Consumers are willing to pay for e-journals.

- Creative fee structures are introduced, such as pay-per-view.

- Financial support of e-journals by universities and professional societies continues.

- Storage and printing costs are shifted to the readers. However, journals lose income from selling back issues.

These factors create an environment where the funds required to establish and maintain an e-journal are lower than the funds required to establish and maintain a comparable p-journal.

The **management** of academic publishing is becomes exclusively the responsibility of professional societies and university presses. Commercial publishers' paper journals' sales erode due to their inability to compete with the lower overhead of professional societies, university presses and grass-root publishers.[38] The direction of most e-journals is traditional. The main goal is to replace p-articles with equivalent e-articles. Copies of articles are printed out and kept in the Library of Congress ensuring long-term sustainability. Copyrights remain with the authors who can publish their work in multiple venues (for example, JEP and FIS authors keep the rights to their articles allowing them to publish these articles in other outlets.) Citation analysis and priority claims remain as they are now since articles are static and resemble p-articles. Cycle time is reduced. Since there is no space limitation, the only backlog of accepted articles is between issues.

The reputation of e-journals is in an indeterminate state. On one hand e-journals are becoming the predominant form of publishing, on the other hand reading habits dictate printing the material. Marketing efforts are concentrated in cyberspace (e.g. search agents, banners) combined with some traditional marketing mechanisms such as flyers, letters to individuals and libraries, and promotions at conferences. Accessibility to the articles and download time depend on the available infrastructure

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[38]For example, the initial cost to produce ISF, a commercially produced paper based journal with on-line presence, is estimated at $200,000 whereas not-for-profit publishers of e-journals have startup costs of much less than $100,000.

only. Since e-articles are identical to their paper counterparts, scholars can access articles any time, any place electronically.

Low **social acceptance (mannerism)** drives editors of e-journals to maintain a p-journal look and feel, using very few of the capabilities afforded by the media. The perceived quality of journals displayed electronically is relatively low. T&P committees only consider paper printouts of electronic articles. Gatekeepers support the introduction of e-articles only as a medium of delivery. Global access increases. Scholars in underdeveloped countries have the option to access articles online if they have easy access to advanced infrastructure or print paper copies in the library or other central facilities if their personal access is too slow. Since the electronicity of most articles is low, download time using older technology is not excessive.

Summary of Scenario II

In this scenario, academic publishing shifts to the hands of professional societies (as in the case of CAIS) and entrepreneurial efforts within universities (as in the case of FIS). The low cost of e-journals, coupled with innovative fee structures, drives universities and societies to implement e-journals. Low acceptance forces these journals to maintain a print-like look ensuring sustainability, traditional citation analysis, and acceptance by T&P committees. The Internet is used only as a medium of distribution.

Proposition II: Increase in economic viability of e-journals combined with low social acceptance of e-articles results in the replacement of paper journals with analogous e-journals.

12.4. Scenario III - Co-Existence Of E-Journals And P-Journals

This scenario is based on the assumption that the economic factors of academic publishing drive publishers towards p-journals while the social acceptance factors promote e-journals. Academic publishing combines p-journals with electronic access. Current examples of such co-existence are the ACM electronic libraries, Kluwer online (which includes ISF discussed in chapter 11) and INFORMS on-line.

In this scenario the **material** remains the traditional research paper. Articles are sequential in nature since they have to conform to both paper and electronic **media**. The **means of distribution** is mixed: physical using mail services combined with electronic access using the Internet or CD-ROM. Paper and electronic articles are bundled into issues and delivered periodically.[39] The **modes** are limited to text and 2-D graphics with minimal use of color or pictures. However, the online versions of the articles include extensions with additional modes such as hyperlinks, video and audio. The **market** remains small and is limited to academia (researchers, professors and students).

The **economics (money)** of academic journals are driven by the distribution of paper journals. Publishers use funds from p-journals to support their electronic presence. Academic publishers charge an additional fee for a combined paper and online access (For example, Kluwer currently charges 20% extra for combined access to ISF) and require subscription to the paper version.

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[39]It is possible to post the electronic versions of articles as soon as they are ready, thus reducing cycle time. However, such practice has to consider the timing issues discussed in the case of ISF. For example, a scholar with on-line access might cite an e-article that is not yet published. Reviewers might not have access to that article for another three months (or if there is a backlog perhaps another year or more.)

The **management** of academic publishing remains in the hands of professional publishers such as commercial academic publishers, university presses and professional societies. Scholars look for new directions in their respective disciplines. Niche journals like JEP are economically viable despite their relatively small audience due to continuous support by professional publishers. Copies of articles are kept in the Library of Congress ensuring long-term sustainability. Copyrights remain with the publishers. Citation analysis and priority claims remain as they are now.

Cycle time is reduced minimally. E-articles can be accessed as soon as the issue is ready for printing, saving 5-6 weeks.[40]

The reputation of e-journals is based on the standing and reputation of the p-journals with which they are associated. Marketing efforts are mixed. Publishers continue with the traditional marketing efforts, many of which are based on the existence of a physical element that can be handed out, combined with cyberspace marketing (e.g., search agents, banners).

Accessibility to the articles increases for some and remains the same for other. Scholars can access articles any time any place either in paper form or electronically depending on their location and the infrastructure available to them. However, scholars accessing the electronic version are able to view additional modes and formats such as video, and images, while scholars accessing the paper version see

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[40]According to Kluwer Academic Publishing, it takes approximately 5-6 weeks from the time an issue is sent to print to the time a subscriber receives it. This time includes printing, packaging and mailing and varies depending on the geographical distance and postal services involved.

only the basic version of the article. Libraries carry a print version of journals while providing electronic access to them. This arrangement increases library costs.

High **social acceptance (mannerism)** is driven by the need to reduce cycle time, and increase any-time-any-place access. The acceptance drives publishers to create online versions of paper journals and libraries and research institutes to spend the extra money required to purchase online subscriptions. The perceived quality of e-journals is adjusted based on the publisher's reputation, the quality of the material and the refereeing process involved. The perceived quality of the Internet as an electronic graffiti board dissipates.

T&P committees consider p-articles and their identical online versions as equal in the promotion process. Gatekeepers support the introduction of e-versions of p-journals. Some disciplines even weight e-version of articles more than the p-versions. Global access increases. Underdeveloped countries have the option to access articles online when the infrastructure is available or purchase paper versions. Since the electronicity of most articles is low to medium, download time using older technology is not excessive.

Summary of Scenario III

In this scenario, academic publishing remains in the hands of professional publishers such as commercial publishers (e.g., Kluwer), university presses (e.g., UM Press) and professional societies (e.g., AIS, ACM and INFORMS). Academia pushes for a change. The need for reduced cycle time, increased journal space and increase in new directions and innovative research drives academic publishing

towards e-journals. Publishers need the funds supplied by traditional paper journals to support these electronic ventures.

Proposition III: Lack of economic viability of stand alone e-journals combined with social acceptance of e-articles results in co-existence of paper journals and online versions.

12.5. Scenario IV - Ubiquitous

This scenario is based on the assumption that both the economic factors and the social factors of academic publishing favor e-journals. The scenario assumes economic viability coupled with social acceptance. For the ubiquitous scenario to exist, several issues need to be resolved such as long-term sustainability, and backward integration. We define these issues as "universal issues" (see Sidebar 12.1). These issues are discussed only in Scenario IV since they are not a concern in the first three scenarios. The existence of paper copies of all e-articles ensure long-term sustainability, reduce urgency for backward integration and less dependency on the infrastructure.

In this scenario the **material** is innovative. Using the additional space available, e-journals introduce additional material such as programs, algorithms, test data, experimental data and videos of experiments. Articles are intuitive in nature using hyperlinks. Portions of the articles are located in various locations and linked. The **medium** used is the Internet or an equivalent successor, high-speed ubiquitous network. The **means of distribution** is primary electronic pull distribution. Articles are posted when they are ready. The **modes** are multiple (and possibly unlimited) and may include 3-D images, video, audio, color or pictures. An article is published in several versions, at several levels of complexity. Thus, a reader can choose the

level of technical complexity with which he or she is comfortable. This introduces additional burden for the author (see section 12.5). In some disciplines, the **market** increases in size. "Issues" are built with different levels of content intricacy, thus appealing to a larger audience. For example, an article contains two levels of theory and two levels of practice. A researcher chooses to read the expanded theoretical section and the summary of the implications to practice, while a practitioner reads a summary of the theory and a detailed section on practical implications.

The **economics (money)** of journals are driven by factors similar to the ones described in the Scenario II on Replacement.

The **management** of academic publishing is transferred to professional societies and academic entrepreneurs. Commercial publishers' sales erode to a point where it is not viable for them to remain in the academic publishing business. They relinquish their control over e-journals to professional societies and grass-root publishers. The direction of e-journals is a combination of traditional content with high use of the available technology (e.g., MISQ Discovery) or innovative content and niche markets (e.g., FIS, CAIS and JEP). An electronic equivalent of the current Library of Congress is established to ensure long-term sustainability of material. Copyright laws change.

Skywriting[41] and the distribution of material in various locations make it difficult to enforce current copyright laws. An article's copyrights may reside with its various authors or with the universities (or any other research institution) that supported the research. In the case of skywriting, the copyrights are not limited to the original

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[41]For definition and discussion of scholarly skywriting see section 2.2.

author(s) but include any reviewer or subsequent authors that contributed significantly to the article in its present state. Citation analysis changes to incorporate URL's. Versioning control is used to eliminate corruption of citation chains by skywriting and in-place changes.

Cycle time is reduced. Articles are posted as soon as they are ready. Since there is no space limitation, there is no backlog of accepted articles. The reputation of the e-journals is based on the quality of the material published, the refereeing process, and the reputation of the authors and the editorial board. Marketing efforts are concentrated in cyberspace (e.g., search agents, banners) combined with some traditional marketing mechanisms such as flyers, letters to individuals and libraries and promotions at conferences.

Social acceptance (mannerism) of e-journals is total and based on the solutions to the universal issues discussed in sidebar 12.1:

1. E-journals exist in a reliable and stable environment. E-journals sites are available and accessible.

2. A single electronic library is implemented for permanent access equivalent to the Library of Congress.

3. E-articles are accessible regardless of the age of the technology they use, but at different levels of complexity and information.

The look and feel of e-journals use all of the capabilities afforded by the media used. T&P committees consider electronic journals equal if not superior to the previous era's paper journals. Gatekeepers support and promote the use of e-journals:

1. Gatekeepers become determined to shift academic publishing from the control of commercial publishers back to academia (professional societies and universities). They use electronic publishing as a vehicle.

2. In some applied disciplines such as IS, law, engineering and biology, convergence between academia and practice increases. This convergence creates pressure from practitioners to produce research outlets that support relevant research that is rigorous. E-journals are used as such an outlet because

- They have larger reach

- The increased available spaces allows editors to publish additional information (see the case of JILT, in chapter 10, for such an example)

- The availability of multiple modes and structure complexity allow editors to create articles that apply to both types of readers

3. Increased pressure from junior faculty allows new formats, innovative research, and reduced cycle time.

Global access increases. The variance of the available technology between developed and underdeveloped countries is much smaller than what we see today. Due to the rapid changes in technologies, even advanced schools might find themselves lagging behind between upgrades while (similar to the diffusion of wireless telephony in China) less advanced universities or countries leapfrog to a position of state-of-the-art technology. Over all, underdeveloped countries have increased access to high-speed state-of-the-art infrastructure at relatively low cost.

Summary of Scenario IV

In this scenario, academic publishing shifts to the hands of professional societies (CAIS) and entrepreneurial efforts within universities (such as FIS). The low cost of e-journals coupled with an innovative fee structure drive universities and societies to implement e-journals. The high acceptance and the solutions of the universal issues allow these journals to use high levels of electronicity and innovation.

12.5. Unintended Consequences

Scenario IV creates a set of unintended consequences that need to be considered:

1. Some stakeholders, specifically universities in underdeveloped countries and less affluent universities in developed countries, are forced into ubiquitous use of e-journals without being part of the decision making process.

2. In the print world we all have the same technology -- paper. In the electronic world there is a wide variability in the available technology. This variability can create a class system within academia. Certain scholars are able to access highly complex e-articles benefiting from the additional modes available while other scholars are able to access only simple forms of e-journals, thus losing some of the knowledge delivered in them.

3. The use of multiple modes creates a new set of review and T&P guidelines. These guidelines go beyond content and add considerations such as format, use of media, and level of complexity. For example, articles published in MISQ Discovery stand the theoretical rigor test as well as being highly electronic.

4. The workload for authors increases. To introduce increasing levels of electronicity in their articles, authors construct articles with multiple levels of modes and content complexity, and they have to maintain these articles as long the articles are "active."[42]

Proposition IV: Increase in economic viability of e-journal combined with high social acceptance of e-articles results in the ubiquitous acceptance of e-journals.

Proposition V: The transition from Scenario II or Scenario III to Scenario IV depends on solutions to ubiquitous issues of sustainability, the reliability of the infrastructure, unintended consequences, and backward integration.

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[42]The word "active" refers to e-journals that support dynamic rather than static e-articles. For example, articles in MISQ Discovery can be changed periodically by authors. These changes are driven by reader comments, new technologies, or other major shifts in IS.

12.6. Comparison of Scenarios

Table 12.3 summarizes the driving variables for the four scenarios and the bundle of assumptions that go with each scenario. The factors are derived from the 8-M framework described in section 2.

TABLE 12.3

COMPARISON OF VARIABLES IN THE FOUR SCENARIOS

Factor	Scenario I - Status-Quo	Scenario II - Replacement	Scenario III - Co-existence	Scenario IV - Ubiquitous
Material	Traditional, sequential	Traditional, sequential	Traditional, sequential	Innovative, intuitive
Medium	Paper	Internet	Paper + Internet/CD-ROM	Global, wireless infrastructure
Means of distribution	Physical, periodic, supply-push	Electronic, periodic, demand-pull	Push + pull, electronic + physical	Electronic, ad-hoc, pull-demand
Mode (Audio, video)	Text, limited graphics	Text, limited graphics, optional audio and video	Text, limited graphics, optional audio and video for e-versions	Text, images, audio, video, colors, hyperlinks
Market	Academia	Academia	Academia	Ubiquitous
Money:				
- Cost to produce e-journals	increases	Cost << fee charged for e-journals	Unchanged	Cost << fee charged for e-journals
- Fees charged for e-journals	None	= to current p-journal fee structure	Combined subscriptions	New fee structures
Management				
- Direction	Traditional	Traditional	New directions	Innovative
- Sustainability	Library of Congress	Print copies of e-articles	Library of Congress	An e-version of Library of Congress
- Timeliness	Cycle time > 1 year	Reduced cycle time	Minimal reduction in cycle time	Major reduction in cycle time
- Reputation	Unchanged	E-journals reputation is low	Unchanged	Increases
- Marketability	Traditional	Combined	Combined	Electronic
- Accessibility	Limited	Increased	Increased for some and reduced for other	Ubiquitous
- Copyrights	Remain with the publisher	Remain with author	Remain with publishers, hard to enforce	Open issue

Table 12.3—*continued*

Factor	Scenario I - Status-Quo	Scenario II - Replacement	Scenario III - Co-existence	Scenario IV - Ubiquitous
- citation analysis	Unchanged	Static changes to e-articles	Based on the p-journal	Resolved or changed
Mannerism:				
- Perceived e-journal quality	Low	Low	Medium	High
- Look & Feel	Unchanged	Unchanged	Unchanged	Innovative
- Gatekeepers	Object to AEP	Object to AEP	Support AEP	Drive AEP
- T&P	E-journals are unacceptable	p-version of an e-article is submitted	p-articles are submitted	E-journals are highly accepted
- Globalization	Unchanged	Decrease	Increases	Ubiquitous

Table 12.3 summarizes the four scenarios in terms of the factors from 8-M framework. The significant difference between the Status Quo Scenario and the replacement Scenario is that the replacement Scenario leads to the following changes:

- The medium of delivery changes from paper to the Internet

- The distribution shifts from physical to electronic

- Additional modes are available but are unlikely

- Economical conditions favor electronic publishing

- Reduction in cycle time

- Increased accessibility for most scholars

- Minor decrease in global access

The significant difference between the status quo scenario and the co-existence scenario is that the co-existence scenario leads to the following changes:

- The medium of delivery combines paper and an electronic rather than paper only

- The distribution is both physical to electronic rather than physical

- Additional modes are available but are unlikely

- Social factors favor electronic publishing. Gatekeepers support e-journals.

- Minimal reduction in cycle time

- Accessibility increases for some and is reduced for others

The only factors that remain the same between the status-quo scenario and the ubiquitous scenario or that remain an open issue are:

- The need for long term sustainability remains. The implementation might differ

- The need for copyrights policies

- The need for intact chain of citation and citation analysis

All other factors will change to some degree.

12.7 Process Theory

The analysis in this section is inspired by the concept of Process Theory developed by Soh and Markus (1995). Process Theory is applicable to situations where the outcome is uncertain. The theory presents a set of conditions that are necessary to the existence of the outcome but may not be sufficient.

The level of success of e-journals can be explained in terms of Process Theory for two reasons:

1. The outcome of academic e-journals is uncertain at this stage

2. Using process theory we can list the conditions that are necessary to the success of an e-journal. However, we do not know if these conditions are sufficient.

The unit of analysis in this section is an individual journal. An academic journal might start from one of two states:

1. A current p-journal transforming to an e-journal.

2. A pure e-journal start-up.

The level of success of an e-journal and its evolutionary process depends on its economic viability and its social acceptance. The economic viability is relative. An e-journal is not economically viable if:

- It is cheaper to produce and distribute a p-journal than an e-journal, or

- The e-journal has insufficient or no known source of funding, or

- The conversion from a paper to electronic medium is costly, or

- The addition of an electronic version of the p-journal cannot be funded.

The model assumes that external factors such as the universal issues discussed in sidebar 12.1 may or may not be resolved. An individual journal cannot solve the universal issues yet its editorial board can institute policies that will reduce some of the impact. For example CAIS produces a yearly CD-ROM that ensures long-term sustainability of the published material. JILT uses an automated link-check program that eliminates unresolved links to overcome some of the inherent instability of the Internet.

Two processes can be defined, depending on whether a p-journal currently exists or not. These processes are shown in Figures 12.2A and 12.2B

Figure 12.2A shows the situation for an existing p-journal deciding whether to go into electronic publication.
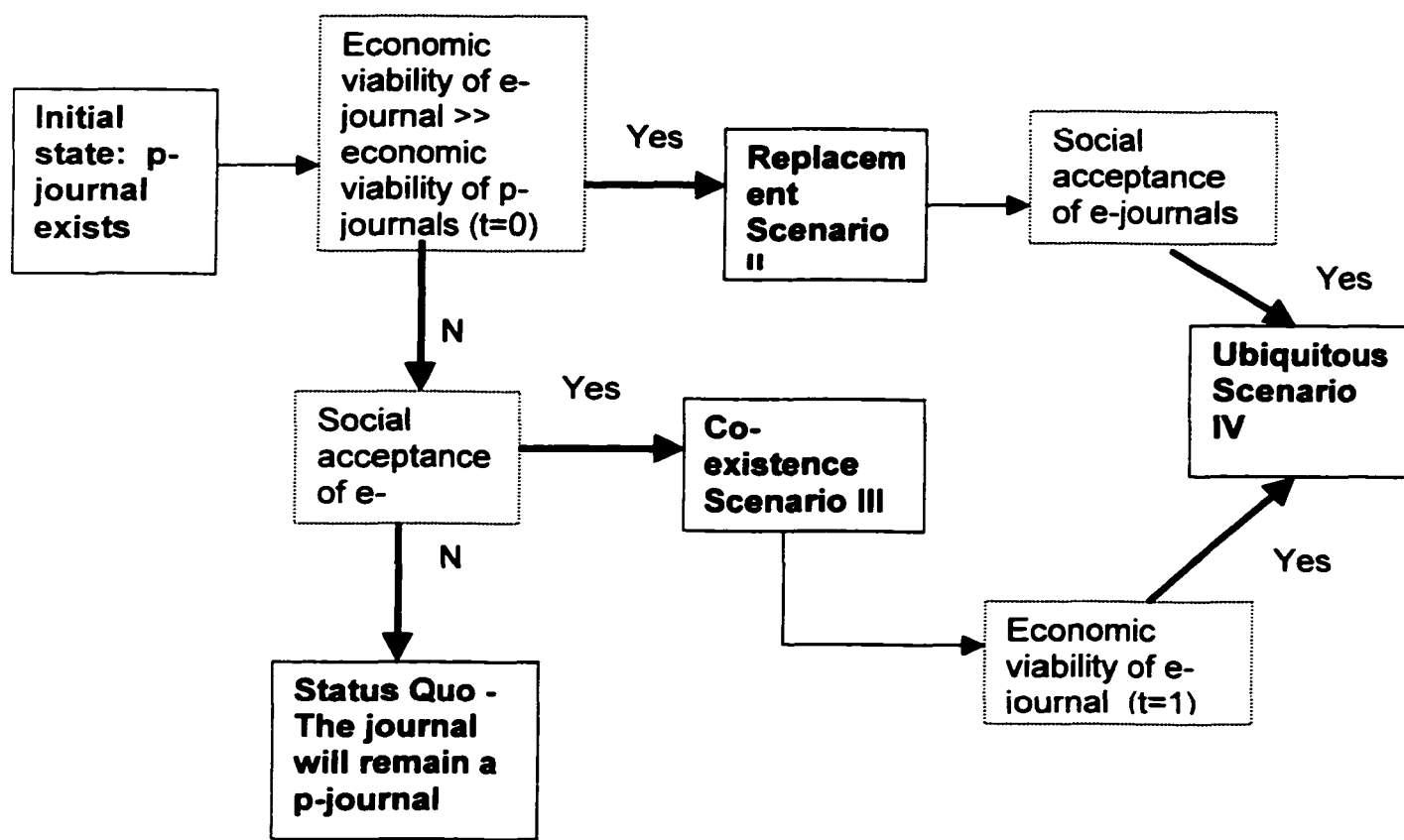
Figure 12.2A. The penetration of e-journals in academia when a p-journal exists
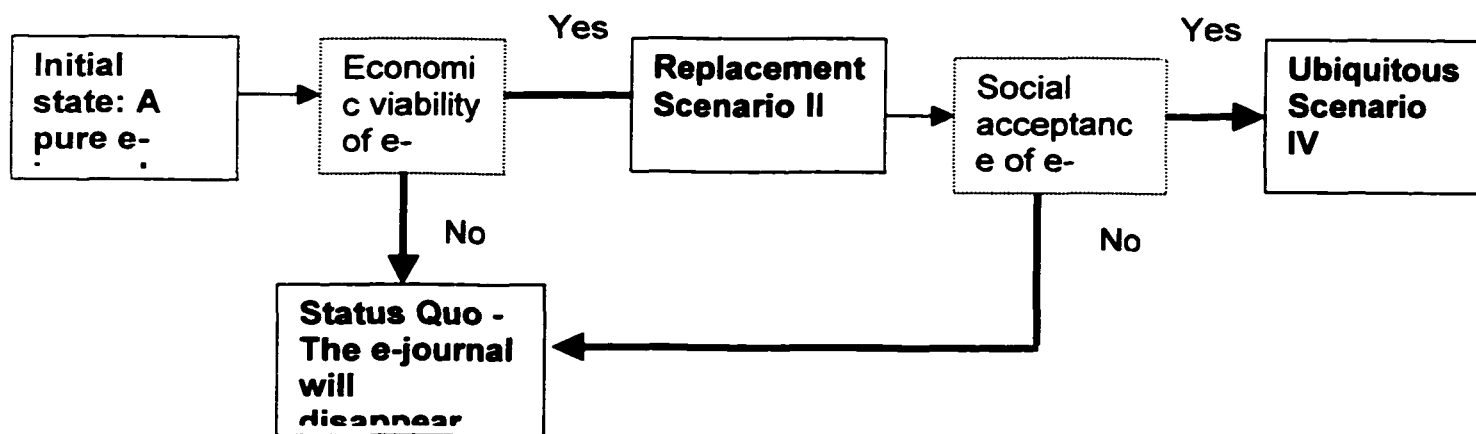
Figure 12.2B. The penetration of e-journals in academia when a p-journal does not exist

Case 1: If the economic viability of establishing an e-journal is higher than that of the current p-journal (t=0), the journal moves into the replacement mode of Scenario II, publishing an electronic replica of the e-journal and discontinuing the p-journal. This case can occur if costs such as printing or postage escalate. Over time, if the electronic version becomes socially acceptable, additional electronicity is added and the journal transforms into the Ubiquitous Scenario IV. Note that the transformation to the Replacement scenario is due to economic constraints.

Case 2: The p-journal continues to be economically viable (t=0). Then, if there is social acceptance of an e-journal version, the e-journal version co-exists with the p-journal (Scenario III). The objective is to appeal to a niche market of people who, for example, want the e-journal version as a supplement or to conserve space. Co-existence can be an end state. However, depending on the economic viability of the e-journal, the process may move to the Ubiquitous scenario IV or revert to a pure p-journal (at t=1). For example, if the e-journal turns out to be economically superior by itself over the p-journal version, the journal may transform itself into the Ubiquitous Scenario IV.

Case 3. The p-journal is economically viable and the e-journal is not socially acceptable. In this case, the journal remains a p-journal.

The process model depicted in Figure 12.2B describes the process a new e-journal might follow to achieve the ubiquitous scenario . If a p-journal does not exist, the e-journal has to be economically viable.   As a first step, it will follow the replacement model described in Scenario II in that it will be published in place of a p-journal. As in the case of FIS, while the journal may be delivered electronically it may

maintain the appearance of a p-journal. Over time, if it gains social acceptance, it will reach the Ubiquitous Scenario IV. However, if social acceptance does not follow, it will disappear even though it is economic. If the e-journal is not economically viable, it will either not be published or will quickly disappear.

In summary, the conditions for positive outcomes shown in Figure 2-12 are necessary to the success of e-journals, but there is no guarantee that they will be sufficient.

CHAPTER 13

CONCLUSIONS

This dissertation presented the potential benefits and the new challenges induced by Academic Electronic Publishing. The six case studies in Chapters 6 through 11 provided in-depth insight to the practices adopted by e-journals and the challenges they face. Four scenarios (developed in chapter 12) examined possible futures based on alternative assumptions about the economics and acceptance of academic e-journals.

Table 13.1 compares the six cases based on the 8-M framework of chapter 3.

TABLE 13.1

COMPARISON OF 8-M VARIABLES IN THE SIX CASES

Factor	CAIS	MISQD	FIS	JEP	JILT	ISF
Material	Non traditional work	Research papers	Philosophical work	Mixed: research and practice	Mixed: research and practice	Academic and industry research work
Medium	Internet + CD-ROM	Internet	Internet	Internet	Internet	Co-existence
Means of distribution	Push (notices) + pull	Pull	Pull	Push (notices) + pull	Pull	Push
Mode (Audio, video)	All accepted	Advanced modes	Text + images	Text + images + hyperlinks	Text + images + hyperlinks	Text + images
Market	Membership of AIS	ISWorld + unknown	Specialized market	Library sciences	IT law, international	Unknown
Money:						
- Cost to produce e-journals	Minimal, voluntary	Volunteer work + $1700 a year	Minimal, Voluntary	Volunteer work + $1100 a year	$25,000 a year	$200,000 per year, but not an e-journal

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Table 13.1—*continued*

Factor	CAIS	MISQD	FIS	JEP	JILT	ISF
- Fees charged for e-journals	Bundled with membership fees. Institutional - $95/ year	Free	Free	Free	Free	Individual - $60 Institutional - $308 - $360
Management						
- Direction	Content innovation in IS	Pushing the technological envelope	Niche, focused	Niche, focused	High quality e-journal	Niche, focused
- Sustainability	CD-ROM	No provisions	Paper copies	No provisions	No provisions	Library of Congress
- Timeliness	Average = 4 months	1 year	1 year	Average = 2 months	Average = 2 months	1 year –paper 6 months - online
- Reputation	Via AIS	Via MISQ	Via editors	Via UM Press	Via Electronic Libraries Program	Via Kluwer
- Marketability	Via AIS	ISWorld, MISQ	A specialized community, conferences	UM press and member list	Library program, conferences, cyberspace	Via Kluwer
- Accessibility	Limited to AIS members	Limited by technology	Global, any time any place	Global, any time any place	Global, any time any place	Limited to subscribers only
- Copyrights	AIS	Remain with the author	Remain with the author	Remain with the author	Remain with the author[43]	Owned by Kluwer
- Citation analysis	Version control, using year, vol., number	Via MISQ	Static articles, using URL	Static articles, using URL	Static articles, using URL	Traditional
Mannerism:						
- Perceived quality	Via AIS	Via MISQ	Difficult to manage, no strong affiliations	UM Press, topic itself	Via Electronic Libraries Program	Managed via Kluwer
- Look & Feel	Varies by articles	Innovative	Paper like	Paper like	Paper like	Paper
- Gatekeepers	Allows to bypass	Same as MISQ	Specialized, committed to the topic	Specialized, committed to the topic	No information available	Multi-disciplinary. Industry and academic
- T&P	Active campaign	Based on MISQ	No active campaign, less of a concern	No active campaign, less of a concern	No active campaign. No tenure issue in Europe	Managed via Kluwer

[43]JILT authors have partial copyrights. They are allowed to republish their work in paper journals but are not allowed to post their work in any other electronic form (such as another e-journal or a Web site).

Factor	CAIS	MISQD	FIS	JEP	JILT	ISF
- Fees charged for e-journals	Bundled with membership fees. Institutional - $95/ year	Free	Free	Free	Free	Individual - $60 Institutional - $308 - $360
- Globalization	CD-ROM; Place complex modes in appendices	No provisions taken	Increases due to low electronicity	Increases due to low electronicity	Increasing (based on readership survey)	Increase for universities that can afford the online access

Table 13.2 summarizes the activities involved in producing an academic journal and compares the financial support of these activities among the six journals studied.

TABLE 13.2

FINANCIAL ANALYSIS OF E-JOURNALS

Category	CAIS	MISQD	FIS	JEP	JILT	ISF[44]
Creating the article	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Editorial	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Managing review process	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Reviewers	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Mode conversion	Editor	Editor or authors	Support staff	Editor	Paid support staff	Paid Kluwer staff
Technical support staff	Voluntary	Paid MISQ staff	Voluntary	Paid UM Press support staff	Paid support staff	Paid Kluwer staff
Hardware	AIS	MISQ	U of Houston	UM Press	Warwick University	Kluwer and SUNY at Buffalo
Copy editing	Voluntary	Voluntary	Voluntary	Paid UM Press staff	Paid support staff	Paid Kluwer staff
Maintaining Subscribers list	Voluntary	N/A	N/A	Paid UM Press staff	N/A	Paid Kluwer staff
Notifications	Voluntary	N/A	N/A	Paid UM Press staff	N/A	Paid Kluwer staff
Distribution	Reader	Reader	Reader	Reader	Reader	Kluwer
Printing	Reader	Reader	Reader	Reader	Reader	Kluwer

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[44]ISF is a paper-based journal with an online presence. It is used here to compare the expenses and the financial and staff support between e-journals and p-journals.

As can be seen from table 13.2, much of the initial work of producing and reviewing the material is voluntary regardless of whether the journal is electronic or paper based. However, the rest of the work of editing, converting and distributing as well as the cost for hardware vary. Some journals are supported mostly by volunteer work and university hardware whereas commercial publishers, university presses, and government programs support others.

Table 13.3 and table 13.4 consider, respectively, the benefits and challenges of e-journals described in tables 1.1 and 1.2 in chapter 1. For each factor, these tables show the extent to which the benefits are achieved and the challenges met in the six cases studied.

TABLE 13.3

IMPLEMENTATION OF ANTICIPATED BENEFITS

Factors	Anticipated Benefits	Implemented Benefits
Accessibility	E-journals eliminate from geographic and temporal accessibility limits because they are available 24 hours/day, 7 days a week any place	Most e-journals increase accessibility. The Internet allows access any-time-any-place. However, if e-journals were to use all the new formats available to them, they might require high-speed networks that are not universally available.
Added space	E-journals allow researcher to include additional material such as programs, algorithms, surveys, rich case descriptions and raw data	Most e-journals use the added space to allow new and innovative material

Table 13.3—*continued*

Factors	Anticipated Benefits	Implemented Benefits
Cost	Electronic journals combat the increasing costs of traditional academic journals. Because e-journals are believed to cost less to produce than paper journals, some argue they should be offered to the readers for no cost.	Much of the cost is supported by external entities (associations, p-journals, research funds and commercial publishers). E-journals are not expense free. Much of the work is voluntary and the costs are hidden. Packaging and distribution costs are reduced. Costs shift to the reader, the editor(s) and the university.
Decrease in publication cycle time	The Internet as a delivery medium can reduce the time it takes to publish an article. Some speculate that the lag time from submission to publication can approach zero.	Cycle time decreases due to • work being published when ready • no backlog of accepted material Some e-journals still publish periodically to increase acceptance. Fully refereed journals experience the same delay as paper journals
Innovative and unorthodox work	The relative low cost to initiate an e-journal would allow small groups of scholars to launch publication outlets that support non-traditional research and innovative work.	E-journals increase the ability to publish innovative and unorthodox work. The relatively low cost to initiate an e-journal allow grass roots groups to create their own publication outlets.
Interactivity	The reduced cycle time and the ability to create dynamic articles (compared to the static nature of paper articles) can increase interactivity among scholars and researchers. Academic journals can be used as a form of communications rather than an archival mechanism.	E-journals do not increase interactivity: • scholars do not use e-journals for discussions and comments • the cycle time for refereed journals is still relatively long • Living scholarship has limitations such as maintaining the integrity of the citation chain
New formats	Electronic journals can use audio and video attachments to increase the richness of the information. Hyperlinks permit new structures.	Most e-journals do not use the medium to: 1. increase electronicity 2. increase acceptance 3. reduce download time

TABLE 13.4

MANAGERIAL POLICIES RELATED TO THE NEW CHALLENGES

Factors	Anticipated New Challenges	Current Practices
Backward integration	E-journals are designed to work with current technology. Once a technology is obsolete, all articles have to be converted. For example, Internet-based e-journals using HTML, are designed to work with current browsers such as Netscape and Internet Explorer. Once these browsers are outdated or cease to exist, these articles have to be converted or they will no longer be accessible. The same argument can be made about paper journals. The difference is that paper technology life cycle is much longer than that of digital technologies.	None of the e-journals provide for backward integration. Massive conversion is costly. This open issue needs to be studied further.
Citation mechanism and dynamic work	Articles can be changed after they were published based on readers' comments, new technologies and new theories. The dynamic nature of e-articles requires careful examination of current citation analysis and chain of citations. If article B cites article A and subsequently article A is modified, article B's citation is incorrect, creating a break in the chain of citations.	Currently all e-journals are static in nature. None of the journals studied implemented scholarly skywriting (see glossary) as defined by Hanard. Some e-journals use versioning control, other use dual set of archival work (for citations) and living scholarship for increased communications.
Copyrights	Protecting copyrights is more difficult for electronic material. Manuscripts can be copied and transported more easily.	The policies are mixed. Some journals maintain the copyrights to the articles, other allow the rights to remain with the author.
Fee structure	Current perceptions are that Internet-based information is and should remain free. Can academic e-journals sustain themselves without charging subscription fees? If not what is the most appropriate fee structure for e-journals?	The current fee structure of most e-journals is free to the readers. However, considering the potential financial instability of most e-journals, some fee structure will have to be implemented. This is also an open issue that needs further study.
Long term sustainability	Physical copies of traditional academic articles are kept at libraries and in the Library of Congress. There is a need to establish a long-term central repository for electronic material.	Most e-journals do not provide for long-term sustainability of their material. Considering that some of the journals have short term and uncertain financial backing, this lack should be of universal concern.

Table 13.4 -*continued*

| Perceived quality | 1.The added space allow more material to be published producing a perception of lower quality and lack of control
2.The Internet as a whole is perceived by some as a "graffiti board".
3.The Internet is in a chaotic state and lacks reliability. | Managing the *perceived quality* of e-journals is problematic. Most e-journals are managed by volunteers and amateur managers. Thus, lacking marketing and promotional efforts. Most e-journals manage their *perceived quality* based on a highly reputable editorial board and an affiliation with an existing structure (association, university press or an established journal). Yet, e-journals do not enjoy the same prestige that p-journals do. |

The results observed contain both positive and negative conclusions about the journals studied. On the positive side it was found that these journals

- Created additional publication outlets for research which would not have been possible otherwise (e.g. FIS, JEP)

- Provided opportunities to publish innovative types of work that were not being published previously (e.g., CAIS)

- Brought together academic rigor and practical relevance (e.g., JILT)

- Increased the ability to publish relevant information by reducing the publication cycle time (e.g., CAIS, JILT)

- Increased the richness of the material published by using the electronicty afforded by the Internet (e.g., MISQ Discovery, CAIS)

- Were all accessible at any time and from any Internet connected computer

The case studies also indicated difficulties that current e-journals can encounter.

For example:

- E-journals introduce a set of universal issues and unintended consequences (see section 12). These need to be resolved by creating new over-all policies and by changes in the academic publishing process.

- Some e-journals are supported by temporary financial arrangements. Unless their finances are regularized, their long-term survival is questionable (e.g., JILT, JEP).

- Some of the e-journals are managed by a volunteer staff that does not have the time, the budget, or the knowledge to institute proper management procedures and policies such as marketing efforts, inclusion in secondary indexing services, marketing to T&P committees, and continuing sources of input material. For example:

  - None of the journals instituted a backward integration policy.

  - Only two journals instituted long-term sustainability plan (e.g., CAID, FIS).

  - Only one journal instituted an active campaign to inform Tenure and Promotion committees of its existence (e.g., CAIS).

  - Only one of the three journals eligible, is included in secondary indexing (e.g., MISQ Discovery).

The long-term future of academic e-journals is uncertain. It can range from near disappearance to full acceptance and implementation. To explore the potential alternatives future directions of e-journals four scenarios were presented in chapter 12. These scenarios consider the implications of economics and social acceptance, which appear to be the key parameters. Indicators of these alternative futures are already visible in the cases studied.

In summary, academic electronic publishing can be used to benefit academic communication. This dissertation can be used as a guideline for those interested in assuming that task and furthering the advancement of AEP.

APPENDIX A

PRELIMINARY SET OF QUESTIONS TO THE EDITOR(S)

E-Journal's Name _____
Sponsorship _____

1. Please state your position at the journal (editor, associate editor, advisory board member)

   Answer:

2. What modes are accepted for publication? (Check all that apply)

Text only material	
Audio inserts	
Video inserts	
Images	
Other, please specify	

3. The majority of the articles published so far in the journal include the following

modes: (Check all that apply)

MODE	Until Now	Expected in the Next 3 years
Text		
Audio inserts		

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Video inserts		
Images		
Other, please specify		

4. Is the journal published at regular intervals (e.g., Monthly, Quarterly or Yearly) or are articles published as soon as paper is publishable (i.e. ad-hoc)?

Answer:

5. If the distribution is ad-hoc, what is the notification process?

Answer:

6. What are the means of distribution for the journal? How do subscribers receive or pull articles? (Check all that apply)

Shared Database	
E-mail	
FTP	
WWW	
Listserv	
Other, please specify	

7. Is there any announced or pre-determined space limit for published articles?

No space limit	
Space limit of:	Pages
	MB

	Other, please specify

8. What formats are used for publication (check all that apply):

ASCII	
Text	
Word Processor	
PostScript	
T_EX	
PDF	
HTML	
Other, please specify	

9. Types of articles the journal accepts (Check all that apply):

Research papers	
Case studies	
Tutorials	
Literature survey	
Opinion papers	
Teaching notes	
Book review	
Other, please specify	

10. What is the average circulation of the journal?

Answer:

11. What is the geographical distribution of the journal?

Local in:	
Global	

12. How does the journal handle distribution to underdeveloped people/countries with limited Internet access ?

Answer:

13. What costs are associated with the **production** of the journal? (Please include only total dollar amounts. Include major items such as hardware, software, editing, etc. Include initial costs and ongoing costs if possible).

Answer:

14. What are the costs associated with the **distribution** of the journal? (Please include only total dollar amounts. Include major items such as communication cost, access to the Internet, etc..)

Answer:

15. What is the fee structure for individual readers?

There is no charge	
Yearly subscription fee	
Included in a membership fee	
Per usage fee	
Other, please specify	

16. What is the fee structure for libraries?

Answer:

17. Is the journal affiliated with an association or a professional society? If so, is the journal being subsidized by that association or professional society
Answer:

18. Is the journal being subsidized by any other organization?

Answer:

19. If the journal is subsidized, what is the length of commitment (in months or years)?
Answer:

20. What is the average time from submission to publication?

Answer:

21. Is the journal a refereed journal? (If not skip to question 24)

Answer:

22. If so, How many referees are involved on average per article?

Answer:

23. If so, What is the average refereeing time?

Answer:

24. What is the direction of the journal and how is it different from comparable paper journals?
Answer:

25. What was the motivation behind establishing this journal as an electronic journal versus a paper journal? (Check all that apply)

Cost reduction	
New research stream that needed an outlet	
New professional association	
A need for an outlet for non-traditional work	
A need to increase accessibility or increase markets	
Other, please specify	

26. Was any attempt made to maintain the same "look and feel" of a paper journal? If so, how?
Answer:

27. How do the editors go about improving the reputation and/or **perceived** quality of the journal?
Answer:

28. If applicable, have you or do you have any plans to inform tenure committees, deans or department heads of the existence and the nature of the journal?
Answer:

29. What is the average number of submissions per month?

Answer:

30. What is the acceptance rate (% of submitted articles accepted)?

Answer:

31. What methodology is used to solicit papers? (Check all that apply)

call for paper on the Internet	
call for papers through affiliated societies	
Inviting a journal version of papers given at conferences	
Approaching individual researchers based on their standing or their research interests	
Other. Please specify	

32. Is the journal part of a secondary publication such as:

Indexing services	
Abstract services	
Full text searches	
None	
Other, please specify	

33. Does the journal have an assigned ISSN/ISBN number?

Answer:

34. What was the date of the first issue/article to appear electronically?

Answer:

35. Does the journal have a print counterpart?

Answer: Yes _____ No _____

36. If yes, what is the extent of duplication between the e-journal and the print journal?

Answer:

37. Does the journal support customization based on reader's request/profile? If so, Please describe how.
Answer:

38. If this journal is a conversion from a paper journal, what new skills was the journal's staff required to obtain?
Answer:

39. What scheme is used for citation and referencing? Are articles cited as a URL or using traditional referencing (volume, issue, page number)?
Answer:

40. Are the articles considered "living entities", (i.e. Can they be modified after publication)? If so, what methods are used for versioning control?
Answer:

41. What measures are taken to sustain permanent copies of articles for future generations?
Answer:

Thank You for answering this survey

APPENDIX A.1

EXAMPLES OF ADDITIONAL QUESTIONS/INQUIRIES FOR PHONE INTERVIEW

1. Please review the sample process in appendix C. How does the review process in "----" differ? What is the rational behind the process selected by "----"?

2. Who does the proofreading and the editing of accepted papers?

3. How much time is invested by the editor/ associate editors/ technical and secretarial staff per article? What portions of these functions are done voluntarily and which are paid positions?

4. What other resources are involved in the production of the e-journal? Such as computers, printers, fax machines, hard drives, communications infrastructure? Who pays for it and how much does it cost to the various entities that supply these resources. For example, if articles are stored on a server, how much did it cost, who paid for it and from what funds? Was the funding a real transaction (money changing hands) or was it a contribution (of time and material)?

5. Cost of communicating with the authors in terms of average number of e-mail messages required to complete the review process (includes communication with authors, reviewers, associate editors and technical/secretarial support staff)

6. List the areas in which e-journals have saved over a p-journals. Areas include but not limited to: distribution costs, printing, storage etc..

7. List items in which e-journals are more expensive than p-journals. For example: technical staff, server, backup

8. Membership (if available)

9. Support documents :charter, administrative procedures, sample screens

10. Do you feel that electronic publishing over come problems in paper based academic publishing? If so which?

11. Which new problems/issues have you encountered as an editor of electronic journal that conventional journals don't have

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APPENDIX A.2

EXAMPLE OF QUESTIONS TO AUTHORS

1. Why did you chose "----" journal as an outlet for your article?

2. Does the fact that this is an e-journal had an impact on your decision? If yes, in what way?

3. Were you concerned with the fact that this is an e-journal? If yes, why?

4. How is an e-journal perceived in your institute? How does an article in an e-journal compare with articles published in p-journals?

5. How much time did you spend communicating with the journals staff? How does it compare with conventional journals

6. How much time did you spend proofreading or editing the article? How does it compare with articles in conventional papers?

7. How will you describe the process in general. What were the positive experiences with the journal. What were some of the negative experience with the journal?

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APPENDIX A.3

A PRELIMINARY SET OF QUESTIONS TO THE EDITORS OF ISF

E-Journal's Name IS Frontiers

2. Please state your position at the journal (editor, associate editor, advisory board member) Co- editor

3. Is there any announced or pre-determined space limit for published articles?

No space limit	x
Space limit of:	

3. Types of articles the journal accepts (Check all that apply):

Research papers	
Case studies	
Tutorials	
Literature survey	
Opinion papers	
Teaching notes	
Book review	
Other	

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4. What is the average circulation of the journal?

Answer:

5. What is the geographical distribution of the journal?

Local in:	
Global	

6. If the distribution of the journal is global, how does the journal handle distribution to underdeveloped countries?

Answer:

7. What costs are associated with the **production** of the journal? (Please include only total dollar amounts. Include major items such as hardware, software, editing, etc.. Include initial costs and ongoing costs if possible).

Answer: instead of listing in sequence, give him a proforma:

INITIAL COSTS   ONGOING COSTS

CALLS FOR PAPERS

EDITING

PRODUCTION COSTS

HARDWARE

SOFTWARE

...(add others as needed)

8. What are the costs associated with the **distribution** of the journal? (Please

include only total dollar amounts. Include major items such as printing, mailing,

maintaining a mailing list, etc.)

Answer:

9. What is the fee structure for individual readers?

Yearly subscription fee	
Reductions for special groups (eg a professional society)	
Other	

10. What is the fee structure for libraries?

Answer:

11. Is the journal affiliated with an association or a professional society? If so, is the

journal being subsidized by that association or professional society?

Answer:

12. Is the journal being subsidized by any other organization?

Answer: Publisher put up money up front.

13.Are there any other subsidies such as your university?

Answer:

14. What is the average time from submission to publication?

Answer:

15. Is the journal a refereed journal?

Answer: yes

16. If so, How many referees are involved on average per article?

Answer:

17. What is the average refereeing time?

Answer:

18. Does the journal utilizes IT to complete the refereeing process and in what way?

19. What was the motivation behind establishing this journal as a paper journal

rather than an electronic journal? Was an e-journal a possibility? How was the

decision made?

20. How did the editors go about creating/improving the reputation and/or **perceived** quality of the journal?

Answer:

21. Have you or do you have any plans to inform tenure committees of the existence and the nature of the journal?

Answer:

22. What is the average number of submissions per month?

Answer: Now:

Anticipated:

23. What is the acceptance rate (% of submitted articles accepted)?

Answer: Now:

Anticipated

24. What methodology is used to solicit papers? (Check all that apply)

call for paper on the Internet	
call for papers through affiliated societies	
Inviting a journal version of papers given at conferences	
Approaching individual researchers based on their standing or their research interests	
Other. Please specify	

25. Does the journal have an assigned ISSN/ISBN number?

Answer: yes

26. What was the date of the first issue/article to appear?

Answer:

27. Who are your readers? Is the primary target academia or practitioners? Are they all from IS or are there readers from other disciplines?

APPENDIX B

CD-ROM VS. INTERNET SOLUTIONS

Issue	CD-ROM	Internet
Distribution	Managed, less costly than paper, same procedure	Ubiquitous, cheaper than CD-ROM
Copyrights	Possible to track original as in paper; still copyable	No way to track and monitor copying
Format	Can take advantage of multimedia capabilities	Can take advantage of multimedia capabilities; difficult for equations
Looks and Feel	Possible to create similar looks and feel to current printed papers	Somewhat difficult to create the look and feel of print. Tables and formats depend on viewer used.
Citation and references	Still possible to keep track of publications and citation	Harder to keep track of references and citations
Accessibility	Limited geographically and temporally	Any time any place
Storage cost	Lower than paper	Lower than paper. Not clear if lower than CD-ROM
Ability to publish	Some increased ability to publish due to less restricted space, lower copy and distribution costs	Increased ability to publish. Not limited by journal or library standards
Indexing and search	Same mechanisms	Currently not being done in libraries. In the future, search agents and hyperlink will improve search capabilities
Quality of contents-perceptions and reputation	Perceived quality the same as paper journals	Perceived as lower quality.

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Space	Currently up to 4.7GB, enough to include raw data, algorithms etc.	Unlimited
Timing	Cannot publish one article at a time, lags will still exist	Can publish each article as it is accepted
Stability of medium	Stable, can keep track of previous copies, a copy can be kept in Library of Congress	Currently, not very stable. Down time. Sites disappear. May not be available for future generations without central repository
Version control	Modifications have to be approved. Reprinting is controlled by the publishers	Currently, difficult to control changes. Can open the door for fraud
Collaborations	Does not improve collaboration	Improve collaboration. Scholars can access the same papers anywhere
Customization	Cannot customize journals to subscribers' needs	Subscribers can down-load only articles of interest to them
Economics	Lower cost to publish Can still charge per unit and per permission to copy	Requires enforceable structure of fees and charges

Source: Hovav and Gray (1997)

APPENDIX C1

REVIEW PROCESS OF COMMUNICATIONS OF AIS

All communications referred to in this appendix is electronic unless stated otherwise.

Section A - general

1. Article is submitted
2. Article is acknowledged
3. If author specifies editor review go to section B else if author specify peer review go to section C else if author did not specify either go to 4
4. Editor initiate communication with the author to choose review method. Delay ensue

Section B - Editor Review

1. Editor responds to author acknowledging receipt
2. Editor reads the article
3. Editor makes a decision regarding the article -- accept, accept with revisions, reject, or send to an Associate Editor
4. Case: accept go to Section B1
             reject go to Section B2
             accept subject to revisions go to 11
             send to associate editor go to 5
5. The editor selects an Associate Editor to assign to the article and sends the article
6. Associate Editor reads the article
7. Associate Editor writes a review and make recommendations
8. Editor reviews the recommendations by the Associate Editor and either accepts them or overrides them.
9. If the article is accepted with no revisions (or the revisions have been completed) go to Section B1 else
10. If the article is rejected go to Section B2 else
11. If the article is accepted with revisions, editor will send recommendation + editor's comments to the author + ask for an estimated revision schedule
12. Author agrees to revise manuscript + commits to a set time to complete the revisions
13. A new manuscript received go to step 6

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Section B1 - An article is accepted

1. Author receives an e-mail to let him/her know that the article is accepted[45] (See appendix C1.3)
2. Author is asked to sign a copyright release and return it by snail mail (See appendix C4). Copyright agreement goes to the editor who then forward it to the AIS office.
3. Editor's office ensures that the article follows AIS style sheet standards
4. The article is converted from WORD document to .pdf and .htm using the automated conversion feature of WORD. Hand work is still required.
5. Each version of the article is put on a "forthcoming" section of the server
6. The author is given access to the article, in the "forthcoming" section of the server, and is asked to proofread both forms
7. The author might also be asked to provide revised figures that fit within the printed page for both the .pdf and .htm version
8. Once proof reading is completed, the article is published
9. Publishing is done by adding the article to the list of published articles. The list a pushdown stack.
10. Once a month a notice is sent to each subscriber, listing the articles posted in provides a short statement by the editor indicating the importance of the article and a short abstract of the article.
11. Go to END

Section B2 - Rejected articles

1. A note to effect is sent to the author
2. The articles is archived
3. Go to END

Section C - Peer review

1. Editor reads the article
2. Editor selects an associate editor and send the article
3. Associate Editor asks the author to recommend potential reviewers
4. Associate Editor selects two or more reviewers
5. Reviews review the article using a standard review form (see appendix C1.2)
6. Reviewers respond
7. The first two reviews to arrive are the ones accepted
8. Associate Editor writes his/her comments and recommendations
9. Go to step 8 in section B

END - future plans

---

[45]This is equivalent to a formal letter of acceptance sent in a p-journal.

1. Once a full year = one volume is complete → a yearly archive is established
2. Part of ICIS proceedings will include a CDROM with articles for one year up to the month of June

APPENDIX C1.2

CAIS REVIEW FORM

Communications of AIS

REVIEWER FORM

Please use the following form to submit your review to CAIS

Manuscript Number:[   ]

Reviewer #

Today's Date: [   ]

Reviewer Name: [_____]

E-Mail Address: [   ]

In the space below, please assess the manuscript according to the criteria listed.

Rate each item from 1 = lowest/worst to 5 = highest/best.

	low	1	2	3	4	5

high

1. Topic is RELEVANNT to AIS Membership   __ __   __   __

____

2. Clear and well-defined OBJECTIVES   __ __   __   __

____

3. Paper is unique or important CONTRIBUTION
   to the IS field: __ __   __   __

____

4. Paper is unique or important CONTRIBUTION
   to the understanding of the IS field   __ __   __   __

____

5. METHODOLOGY: (e.g., research design,

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statistical methods, instruments,

data analysis correct and appropriate: — — — —
—

6. EVIDENCE supports author arguments
   and objectives   — — — —
—

7. QUALITY of WRITING is clear and
   grammatically correct   — — — —
—

8. Paper is WELL-ORGANIZED with logical
   flow of argument   — — — —
—

9. Appropriate REFERENCES are cited.   — — — —
—

_____

My Recommendation for this paper is ('x' one):

Publish   [ ]
Minor Revisions   [ ]
Revise   [ ]
Major Revisions   [ ]
Reject   [ ]

In the space below, please write your detailed comments for the author(s). Be sure not to identify yourself in this space. Please be as constructive as possible, suggesting how the author(s) might rectify any problems which you have identified.

_____

In the space below, please write any private summary comments for the editor. These comments will not be shared with the author(s).

APPENDIX C1.3

CAIS ACCEPTANCE LETTER

October 16, 1998

David P. Tegarden
Department of Accounting and Information Systems

Pamplin College of Business

Virginia Tech

Blacksburg, VA 24061

Dear David,

I am pleased to accept your paper Business Information Visualization for publication in the Communications of AIS.

The only things that remain to be done are fixing up some minor editorial points and your signing a copyright release. The editorial points follow in a separate e-mail. The copyright release form is being sent to you as a separate e-mail.

Congratulations on a job well done.

Paul Gray
Editor, Communications of AIS

APPENDIX C2

AIS STYLE GUIDELINES

AIS PUBLICATION STYLE

1. I. INTRODUCTION

It is intended to make the AIS journals as widely accessible as possible. Thus, although the journals are published electronically, it is important that the bodies of articles can easily be read and printed by computers without multimedia capability. Authors are encouraged, however, to add electronic appendices with multimedia material where appropriate.

This document follows the AIS Publication Style. It was prepared in Microsoft Word. It may be downloaded from http:\\cais.isworld.org

2. II. ORDER OF APPEARANCE OF MATERIAL

The order in which sections are to appear is:

- Cover sheet (AIS Logo, Title, Author) [[created by editor]]
- Title
- Author identification
- Abstract
- Keywords
- Text, typically beginning with introduction and ending with conclusions. Each major section numbered
- *Acknowledgements
- Editorial history [[created by editor]]
- References [[including notice on URL's, if applicable]]
- * Bibliography
- * Appendices
- * List of Acronyms [[required only if the paper has a significant number]]
- About the author(s)
- *Electronic appendices
- Copyright Notice [[supplied by editor]]
- List of editors [[supplied by editor]]

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Note that sections labeled with an asterisk (*) are optional. They should be included only where appropriate

III. PAGE LAYOUT

Page Margins

- 1" from top and bottom of page.

- 1.25" from left and right margins

Note: 1 inch = 2.54 cm. = 6 picas
1.25 inches = 3.54 cm. = 7.5 picas

Page Width

60 spaces

Spacing

1.5 lines

Paragraph Indent

0.5 inches

Type Font

Arial (or equivalent Helvetica)

Page Numbers

- 11 point, upper right corner

- Do not number the first page

- Use arabic numberals 1,2,3...

Footnotes

- Numbered in sequence.

- Referred to by superscript number

- Appear on the same page as referred to in text

- 10 point type

- Single spaced

In-Text References

- Items included in the list of references should be referred to in text

- by author name and year within square brackets. E.g., [Gray, 1997]

- For two authors, show both names and year [Gray and Ein-Dor, 1998]

- For more than two authors, show first name and et. al. [Gray et. al.,

- 1995]

- If a given author has multiple papers in a given year, use a,b,c... to differentiate among papers [Gray, 1992a]

Formats for the list of references are discussed later in this style guide.

PAPER AND SECTION HEADINGS

Table 1. Specifications for Headings

	Point Size	Capita-lization	Location	Spaces	Emphasis	Microsoft Word Style
Title	18	UC	Center	12 pt. before, 6pt. after	Bold	Title
Subtitle	18	UC	Center	0 p. before, 6 pt. after	Bold	Subtitle
First Order (e.g., Abstract, I, II)	14	UC	Center	12 pt. before, 6pt. after	Bold	Heading 1
Second Order	12	UC	Left Margin	12 pt. before, 3pt. after	Bold	Heading 2
Third Order	12	UC+LC	Left Margin	6 pt. before, 3pt. after	Bold	Heading 3
Fourth Order	12	UC+LC	Indent, on first line of text	None. Part of paragraph	Italic	Heading 4
Appendices	14	UC	Center	12 pt. before, 6 pt. after after	Bold	Appendix

Note: Line spacing for all headings is 1.5 lines

NUMBERING OF SECTIONS

- First order heads (other than Abstract) receive roman numbers.
- Appendices receive roman numbers
- All other headings are unnumbered.

Figures

Figures should be inserted at the end of the paragraph in which they are first referenced. However, if the Figure would be divided among pages, it should appear on the next page or on the previous page - which ever leaves least space between the reference and the figure.

If several figures are referenced in the same paragraph, they should be presented one after the other.

Figure Titles

- should be placed below the figure

- should have the word Figure followed by the Arabic number of the figure and a period.

- should have one blank line after the figure and two blank lines before the next text or the top of the next figure.

- should be the same type size as the text

- should be upper and lower case

- should be centered

  Example:

Figure 1. A Cellular Mobile Network

Tables

Tables should be inserted at the end of the paragraph in which they are first referenced. However, if the Table would be divided among pages, it should appear on the next page or on the previous page, whichever leaves least space between the reference and the table.

Borders should be drawn around each table element. Table 1 on page 2 of this style guidelines is an example of how these borders should be drawn. .

If several tables occur, they should be presented one after the other.

Table Titles

- should be placed *above* the Table.

- should have the word Table followed by the Arabic number of the table and a period.

- should have one blank line before and after the table title and two blank lines before the next text or the top of the next table.

- should be the same type size and typeface as the text

- should be upper and lower case

- should be centered

Example:

TABLE 3. SUMMARY OF FINDINGS

Cross References Within A Document

Cross-references to text within text are by section number only, using Roman numerals.

Example: As discussed in Section VI,...

Cross-references to figures and tables are shown with the words Figure or Table. Both words are spelled out whether they appear in text or in parentheses

Example: As shown in Figure 6,...
Example: The summary findings (Table 3) emphasize...

IV. FORMAT FOR REFERENCES

This section first describes the various components of individual references and then shows the order in which these components are put together.

Components of references

Author

Single Author: Last Name, First Initials.
Example: Smith, A.
Two Authors: Last Name, First initials, and First initials, Last Name
Example: Gray P. and P. Ein-Dor
Three of more authors: Last Name, First initials, followed by First initials, Last Name
Example: Gray, P., P. Ein-Dor, and A. G. Smith.
Four or more authors: Last name, First initials followed by et al.
Example: Gray, P. et al.
[NOT: Gray,P., P. Eind-dor, M. Igbaria, and L. Olfman]

Year of Publication

- Single publication in year: (year)

  Example: (1996)
- Multiple publications in year by same author(s): (year sequence letter)

  Example: (1997a)

Title

> **Book**: Initial Capitals and Italics
>> Example: *Wealth of Nations*
> **Journal Article**: "Initial Capitals Enclosed in Quotes"
>> Example: "The Demand for Telecommuting"

Publisher

> **Book**: Location: Name of Publisher
>> Example: Upper Saddle River, NJ: Prentice-Hall

> **Journal**: Name of Journal, volume, issue number, and pages
> Journal name is in italics with initial capitals, followed by volume number in parenthesis, issue number or month, and then pages on which the article appears.
>> Example: *IEEE Computer* (25)3, pp. 256-267.

Edited Book

> **Entire book**: Show name of editor followed by (ed.)
>> Example: Gray, P. (ed.)
> OR (eds.) for multiple editors
>> Example: P. Gray and J. Jurison (eds.)
> **Article in Edited book**: Show name of author and title as for journal article, followed by 'in', the name of the editor(ed.), and then the name of the book in italics:
>> Example: Bikson, T.K. "Groupware in the World Bank" in C.U. Ciborra (ed.) *Groupware & Teamwork*

Electronic Publications

> Author name and paper title as for journal articles, followed by the URL and date of referenced version.
>> Example: Burka, L. P. (1995) "A Hypertext History of Multiuser Dimensions," *MUD History*, http://www.ccs.neu.edu/home/home/lpb/mud-history.html (current Dec. 5,1995).

Personal Communication

> Name of Source (date), Personal Communication
> Example: W.R. King (June 1997), Personal Communication

Full References

Book

Author(s) (date) *Title in Italics*, Place of Publication: Publisher, pages(if appropriate))

Journal Article

Author(s) (date) "Title", *Journal Name in Italics*, (Volume)Issue,pages

Edited Book

Editors(s) (ed.)(date) *Title in Italics*, Publisher, pages

Article in Edited Book

Authors(s) (date) "Title of Article" in Editorname(ed.) *Title in Italics*, Place of Publication: Publisher, pages

Newspaper or Magazine Article

Author(s) (date) "Title of Article" *Name of Magazine in Italics*, pages.
For newspapers and magazines, the exact date should be given
Example: Brown, J. (April 15, 1997) "Who, When, Why?" *The New York Times*, page B3

V. DEFINITION OF SECTIONS IN THE ORDER IN WHICH THEY ARE TO APPEAR

This section expands on the list given in Section I. For each section, it describes what should be in the section and/or how it should appear.

TITLE AND SUBTITLE OF PAPER

- The title shall be all caps, 16 point, bold, centered

- If a subtitle is used, place a colon after the title. Put subtitle in upper and case on a separate line.

Examples:

NEW DEVELOPMENTS IN DATA WAREHOUSING

DATA WAREHOUSING:

A Managerial Approach

Author Identification Following Title

- Information about the authors should appear under the title

- Author information is centered

- The author should be identified with up to 5 lines of information, single spaced and centered, as follows:

Name

Department or street address

Affiliation (if appropriate)

City, State, Zip Code, Country (for affiliation or street address)

[Note: The order of these items should be in the form used for mail

addressed to the individual. The order can differ among countries]
E-mail address.

Example:

Upkar Varshney
Computer Information Systems
Georgia State University
Atlanta, GA 30303, USA
E-mail: zzvars@acc.wuacc.edu

ABSTRACT

The abstract should define the problems and summarize the result. It should be more than a table of contents. The reader should want to read the rest of the article, based on what the abstract says.

KEYWORDS

A list of keywords should follow the abstract.

BODY OF THE PAPER

The paper should be divided into sections, with Section 1 typically being the introduction and the last section being the conclusion. Sections are given Roman numerals (I, II, III,...). Each section should be further subdivided with subheads. Multiple order subheads are desirable. All headings should be informative. The reader should not be faced with pages of text without subheads to help her or him navigate through the paper.

Subheads beyond sections are not numbered.

ACKNOWLEDGEMENTS

Authors may wish to acknowledge support from agencies of firms or input from colleagues. The Acknowledgment section should be brief and tasteful.

List Of References

The list of references should appear after the main text and before the appendices.

This list should include only items referred to in the text. All other items should be included in a bibliography (see below).

The list of references should show authors in alphabetical order. Where several papers are referenced by the same author(s), the papers should be listed in the order of publication.

Each reference should be in the form for references given in Section IV. ff this publication.

Bibliography

In addition to the references referred to in the text, authors may want to include a bibliography of additional sources the reader may consult. This optional bibliography should be placed at the end of the paper. Only a list of acronyms and About the Author appears after the Bibliography.

Appendices

Appendices are optional. They are particularly appropriate for material which, if included in the text, would break the continuity of the discussion. Examples are mathematical developments, survey questionnaires, detailed data, or descriptions of methodologies where these items are not the major point of the article.

List of Acronyms

When a large number of specialized acronyms are used in a paper, a list of acronyms should be included at the end of the paper. The list of acronyms is optional.

Acronyms are abbreviations, typically using the initial letters of the words in their definition. They should be used sparingly. They must be defined the first time they are used by spelling out the names of the technical term, followed by the acronym in parenthesis. Once defined, an acronym can be used in the entire paper thereafter

Example: In terms of Virtual Reality (VR), the objects are....

About the Author

This brief description of each author appears at end of the article. The following guidelines should be followed:

- No more than one paragraph of less than 150 words.

- To be tasteful and factual

- For multiple authors, one paragraph each. Names in alphabetical order

- Name of author(s) Bold, Initial Caps, 12 point centered

- Authors are encouraged to add links to their home pages.

Electronic Appendices

Authors are encouraged to add appendices containing sound, video, etc. as special appendices. The body of the article should be standalone and capable of being read and printed on computers that do not have multimedia capabilities

Identification of Paper

The editor will add the following information to each paper published.

- A footer on each page giving the name of the journal, volume number, article number, title of paper and author.

- A short statement at the end of the main text describing the history of the paper. If an article was sent to referees, this fact will be included. The statement indicates the date the paper was received, the data it was accepted for publication, and the date it was issued on the Internet.

Revised: January 4, 1999

APPENDIX C.3

LETTER TO DEANS AND DEPARTMENT CHAIRS

Dear Dean/Professor X:

The Association for Information Systems (AIS) is pleased to announce the publication of two, new electronic journals, *The Communications of AIS (CAIS)* and the *Journal of AIS (JAIS)*. The *Journal* publishes rigorously researched articles on all aspects of information systems. It is a highly refereed, peer-reviewed journal. The *Communications* publishes articles on a wide range of subjects of interest in addition to research. *CAIS* Editors review all articles, and authors submitting papers may request that their submissions be peer reviewed as well.

We are writing to encourage you to consider these two journals as you would equivalent print journals in promotion and tenure decisions. We believe that eventually most academic journals will become electronic; the economics of Web publishing are much more attractive than printing and distributing paper journals. In fact, it is doubtful that AIS could afford to produce a single journal using the traditional paper publishing model. The Association for Computing Machinery (ACM), with approximately 80,000 members, has invested heavily in a digital library and has announced that it will end print publications at some point in the future. There are many electronic journals being published today, and more are planned.

This transition to electronic publishing raises some questions about the quality of papers published electronically and whether the review of these papers meets traditional standards. The AIS publications committee and journal editors are committed to the review policies stated above, and most important, to creating journals of the highest quality. Our objective is for the *Journal of AIS* to achieve a level of quality that equals the best print journals in our field, publications like *Information Systems Research* and *MIS Quarterly*. The *Communications of AIS* stresses quality; it is also a place to publish papers that do not deal with research such as tutorials, teaching cases and innovative ideas on teaching and curriculum.

Promotion and tenure committees can be confident that AIS electronic publications are refereed with the same rigor and have been subjected to the same high standards as the traditional printed journals in our field. Faculty should have no reservations about treating refereed articles in *CAIS and JAIS* as the equivalent to the best print publications.

Thank you for your interest; please feel free to contact either of us to discuss the AIS journals further.

Sincerely,

Henry C. Lucas, Jr.   Gordon Davis
Stern School of Business   Carlson School of Management
New York University   University of Minnesota
Editor-in-Chief   President, AIS
AIS Electronic Journals
AIS Vice President, Publications,

APPENDIX C4

COPYRIGHTS RELEASE FORM
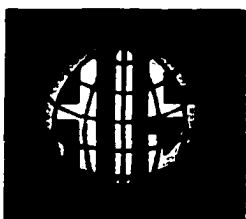
Communications of the Association for Information Systems

To: (fill in name)
From: Paul Gray, Editor CAIS
Subject: Transfer of Copyright Agreement

Congratulations on your paper being accepted for CAIS. Before we can publish the paper, CAIS requires that you release copyright to The Association for Information Systems. For legal reasons, we *must* have a paper copy of the Transfer of Copyright agreement on file before we can publish your paper. Please fill in and sign the following page and return it to:

Professor Paul Gray
The Communications of AIS
Information Science
Claremont Graduate University
130 E. 9th St
Claremont, CA 91711

Thank you for your quick response in this matter.

_____

Note: Each article of The Communications of AIS will contain the following statement regarding the copyright of material.

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Communications of the Association for Information Systems

Transfer of Copyright Agreement

I, the undersigned, declare that the article entitled:

(fill in title)

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2. Authors may include a copy of their article on their Web page as long as it is clearly noted that the Association for Information Systems owns the copyright and that use for profit is not allowed. Such an author version must be identical to the final published version, and include a link to the Communications of AIS.

3. Electronic or print copies may be made for non-commercial personal or classroom use. In cases of classroom copies, copyright should be attributed to AIS on each copy.

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Title: _____

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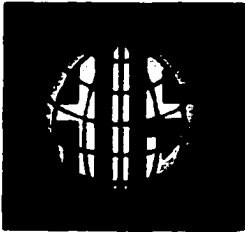_____

Signature: _____   Date: _____

APPENDIX C5

URL DISCLAIMER STATEMENT

EDITOR'S NOTE: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that

1. these links existed as of the date of publication but are not guaranteed to be working thereafter.

2. the contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.

3. the authors of the Web pages, not CAIS, are responsible for the accuracy of their content.

4. the author(s) of this article, not CAIS, is (are) responsible for the accuracy of the URL and version information.

APPENDIX C6

CAIS EDITORIAL BOARD

Communications **of the** **I**nformation **S**ystems
Association **for**

EDITOR

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APPENDIX C.7

AN EXAMPLE OF A NOTIFICATION NOTICE
TO CAIS SUBSCRIBERS

Date: Wed, 07 Apr 1999 02:44:44 "GMT"
From: Reagan Ramsower <Reagan_Ramsower@Baylor.Edu>
To: Anat Hovav <hovava@cgs.edu>
Subject: CAIS: March Articles

THREE PAPERS PUBLISHED IN THE COMMUNICATIONS OF AIS IN MARCH
1999

Hello Anat Hovav,

As a member of AIS, you receive a free subscription to the Communications of the AIS located on the Internet at: http://cais.isworld.org/ Your ID is hovava, and your Password is 04ajh04. The expiration date of your AIS Membership is 6/10/99. If your membership or subscription is about to expire, go to http://aisnet.org/join.shtml to renew.

The three new papers that appeared during March in the Communications of AIS are:

Volume 1, Article 11: Enablers and Inhibitors of Business-IT Alignment by Jerry Luftman, Raymond Papp and Tom Brier.

Volume 1, Article 12: Web-CCAT: a Collaborative Learning Environment for Geographically Distributed Information Technology Students and Working Professionals by Donna Dufner, Rassule Hadidi, and Ojoung Kwon

Volume 1, Article 13: A General, Yet Useful Theory of Information System by Steven Alter

CALL FOR READER COMMENTS: Article 13: "A General, Yet Useful Theory of Information Systems" by Steven Alter presents a viewpoint that some readers may find controversial. For example, some may view the article's central ideas as a promising direction for future work while others may view the ideas are unproductive, or even against the primary interests of the information systems community. The

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editor requests your comments on this article. Depending on your viewpoint, you may want to comment on:
-extensions beyond what Alter presents
-reasons why the article points in the wrong direction
-the extent to which the article's views are well-known or are already widely applied in research and practice

It is the editor's intention to print or excerpt your responses in CAIS in May 1999. Please send your responses (together with permission to print) via e-mail to cais@cgu.edu, preferably before May 1, 1999.

Summaries of the March articles follow.

Volume 1, Article 11: Enablers and Inhibitors of Business-IT Alignment by Jerry Luftman, Raymond Papp and Tom Brier. One of the tenets of managing IS successfully is that IS activities be aligned with the strategic aims of the organization. Although easy to state this goal, it is much more difficult to achieve in practice. In this paper, Luftman, Papp, and Brier surveyed both business (i.e., non-IT) and IT senior managers in 800 firms representing 15 industries to find insights into insight into identifying areas that help or hinder business-IT alignment. Their aim was to determine the most important enablers and inhibitors to alignment. The executives were asked to describe those activities that assist in achieving alignment and those which seem to hinder it. These enablers and inhibitors to alignment were then analyzed with respect to industry, to time, and executive position. The results indicate that certain activities can assist in the achievement of alignment while others are clearly barriers. Achieving alignment is evolutionary and dynamic. They found that alignment requires strong support from senior management, good working relationships, strong leadership, appropriate prioritization, trust, and effective communication, as well as a thorough understanding of the business environment. Achieving alignment demands focusing on maximizing the enablers and minimizing the inhibitors. Remarkably, the data show these factors to be constant over time and to be nearly identical for business executives and for IT executives. This is an extraordinary result because it indicates that the factors leading to alignment are universal rather than situational. Furthermore, the data validate published anecdotal descriptions of enablers and inhibitors.

Volume 1, Article 12:Web-CCAT: a Collaborative Learning Environment for Geographically Distributed Information Technology Students and Working Professionals by Donna Dufner, Rassule Hadidi, and Ojoung Kwon. Although IS research has studied the phenomena associated with people distributed in space and time (e.g., telecommuting, group support, networking, video conferencing) for over a quarter of a century, few of the results obtained are used by the IS academic community in its teaching. An exception is what is being done at the University of Illinois at Springfield by Dufner, Hadidi, and Kwon. They describe the underlying concepts, architecture, and design of a Web-enabled CyberCollaboratory (Web-CCAT) for geographically distributed information systems students and working

professionals. The primary objectives for Web-CCAT are (1) to provide the opportunity to participate in and enjoy the benefits of cooperative learning without having to coordinate meeting times or come to campus; and (2) to provide a more technologically enriched collaborative environment than is possible in a traditional face-to-face classroom. To meet these objectives, multi-user, collaborative software tools and procedures were designed for use in asynchronous communication. Web-CCAT is implemented as a tool kit of commercially available applications coupled with software developed at the University of Illinois at Springfield. The system became operational in January 1999.

Volume 1, Article 13: A General, Yet Useful Theory of Information System by Steven Alter. Alter, well known in the IS community for his seminal book on decision support and for his major introductory text, has long been a leading thinker about what IS is all about. He has put his thoughts together in a major article. He proposes a general, yet useful theory of information systems. He views the article as a response to repeated lamentations and debates about whether it is possible to find a set of core concepts for the IS field. Alter argues that business and IT professionals can apply this theory for understanding and analyzing information systems. Academic researchers can apply it for gaining a deeper appreciation of past research and for developing future research projects. The theory tries to be equally applicable to all information systems, and not just to a particular type of application such as TPS, MIS, DSS, EIS, GSS, ERP or Electronic Commerce. It also tries to be equally applicable to information systems of today, of 20 years ago, and of the near term future.

The article is long but, in the opinion of the editor, well worth reading from end to end. Fortunately, Alter writes well. As indicated above, the editor seeks thoughtful responses to this article and hopes to publish the responses in May.

===

Note to subscribers:
You can retrieve articles from http://cais.isworld.org/contents.asp

If you forget your password, you can find it out by clicking on "Forgot Your Password" following the abstract.

You can change your password at http://cais.isworld.org/change_password.asp

APPENDIX D.1

REVIEW PROCESS OF MISQ DISCOVERY

MISQ Discovery's review process is organic in nature. The following sections describe a review process typical to MISQ Discovery. However, MISQ Discovery does not always follow the same review process. MISQ does not use standard forms for review, acceptance or rejection letters, or copyright agreements. All communications referred to in this appendix is electronic unless stated otherwise

Section A - general

5. Article is submitted in an HTML format using a URL.
6. Article is acknowledged

Section B - Peer review

10. Editor reads the article
11. Editor may select an associate editor and send the article
12. Associate Editor or editor selects two or more reviewers
13. Reviews review the article. There is no formal review form.
14. Reviewers respond
15. Associate Editor or editor write his/her comments and recommendations
16. If article is accepted go to Section B1
17. If article is rejected go to Section B2
18. If article is accepted with revisions, editor will send recommendation + editor's comments to the author
19. Author agrees to revise manuscript + commits to a set time to complete the revisions
20. A new manuscript received go to step 5

Section B1 - An article is accepted

12. Author receives an e-mail to let him/her know that the article is accepted
13. The article is edited and modifies if necessary

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14. Once proof reading is completed, the article is posted. Posting is done by the editor
15. The name and author of the article are added to the next MISQ's table of contents
16. A summary of the article is included in the MISQ DISCOVERY section of the next issue of MISQ.
17. Go to END

Section B2 - Rejected articles

4. A rejection note is sent to the author(s)
5. Go to END

END - Future

The founding editor of MISQ Discovery was appointed for four years. The new incoming editor took over in January of 1999. As of June of 1999, there are no changes in the review process of MISQ Discovery.

APPENDIX D.2

CALL FOR SUBMISSIONS

MISQ
Discovery

Call For Submissions

Introduction

Page Contents

Objective

Here we explore the objectives of **MISQ Discovery**, describe some process issues about electronic scholarship, and invite submissions. A historical perspective for the creation of **MISQ Discovery** can be found in an Editor's Statement as well as an Issues and Opinion article written by Rick Watson, both of which appeared in the October, 1994 issue of **MIS Quarterly**.

Objective of MISQ Discovery | What is MISQ Discovery?] [Desired Content of Submissions | Relationship with MIS Quarterly | Relationship with ISWorld Net | Living versus Archival Publications | Review Process | Publications Schedule | What are Engine Rooms?

MISQ Discovery is intended to engendor new forms of knowledge dissemination and knowledge creation related to information technology. **MISQ Discovery** provides an outlet for electronic work for:

- Exploring alternative knowledge dissemination models.
- Engineering a new intellectual infrastructure for a global community of scholars.
- Fostering cooperative groups focused on learning and research.
- Establishing a "learning organization" to assist the information systems field.
- Providing a model for other disciplines to emulate.
- Challenging assumptions rooted in a paper-based world.
- Offering a living laboratory for experiments in cooperative work.

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What is it?

The words "journal", "article", "author", "issue," "volume" and "printer" do not readily apply to **MISQ Discovery**. "Works" or "productions" submitted by our "producers" will, if found to be of acceptable quality, be "published" as individual contributions (although "virtual volume and issue numbers will be appended to assist in managing citations). That we require different words to describe the elements of this new enterprise, doesn't mean that the outcomes will not be high quality scholarship. Through faster cycle time to publication, immediate worldwide dissemination of knowledge, cooperation among researchers scattered throughout the world, etcetera, we expect to see a dramatic increase in the quality of scholarship and accelerated learning.

We will publish research reports, albeit in new forms, in **MISQ Discovery** but we also encourage one-time initiatives intended to release us from the box of 'paper publishing'. You might take numerous pages to explain to a project in 3-Dimensional modeling, or show your "audience" a 3-D representation and let them experience it for themselves. They might then examine the underlying program or data structure, comments from users, or even download the model for their own use. In an electronic world it will be possible to both show the model or concept and the way it is constructed or applied. Through the use of multimedia, video, interactivity, hypertext, live data, and so on, we expect our producers to challenge our existing assumptions about research and learning.

Desired Content

Electronic Outlets, as with their paper counterparts, serve a targeted constituency. They do so to attract subscribers as well as those seeking outlets for their works. Scholarly journals, in particular, have grown to be closely associated with the rewards systems for various disciplines. These same external pressures drive us to define a constituency for our scholarship even as the technology makes it easier and easier and more and more necessary for us to cross disciplinary boundaries. Our intended constituency are researchers (and managers) interested in the structure of information and knowledge and the application of information systems and information technology.

As we are committed to playing a leadership role in the development of a new intellectual infrastructure, we also intend to publish works demonstrating advancements in knowledge creation and dissemination. We also encourage works that use **MISQ Discovery** or **ISWorld Net** as illustrative organizations. For instance, a work focused on the maintenance of distributed knowledge repositories might include an analysis and recommendation based on schemes currently employed in

MISQ Discovery. Such work, however, must be generalizable to other settings and otherwise be a demonstrated contribution to knowledge. There are many similar topics that we must address including issues of intellectual propery rights, link management, and citation counts. As a user and builder of systems, both **MISQ Discovery** and **ISWorld Net** will be guided and assisted by the works published here. The concrete and the conceptual should come together in these productions, and the organizations we thereby create should be exemplar models of virtual worldwide learning organizations.

Relationship to MISQ

MISQ Discovery was founded by the publisher and senior editors of the **Management Information Systems Quarterly**, and is a division of MIS Quarterly. Although initially conceived with a separate board, there is currently a shared editorial board for both journals with four editors, including the MIS Quarterly Editor-In-Chief of **MIS Quarterly**, taking a special interest in **MISQ Discovery**. **MISQ Discovery** is not intended as an electronic analog to a paper-based journal. Rather, the real potential of new intellectual infrastructure must come through reengineering the learning process around the sophisticated application of today's computer and communications systems. The paper paradigm, has served scholarship well for centuries, but is now breaking down under the competitive pressure from distributed networks linking servers and workstations throughout the world. It is essential that the information systems academic discipline be at the forefront of this revolution, both in application and research. Thus the **Management Information Systems Quarterly,** lends its name and reputation to this experimental new publication vehicle. Works published in **MISQ Discovery** are abstracted in the **MIS Quarterl** and appear in the table of contents of that journal

Relationship to ISWorld Net

The **MIS Quarterly** is a founder of ISWorld Net. Although **MISQ Discovery** is not a component of **ISWorld Net,** there will be a relationship between the two organizations. **ISWorld Net** activities that contribute to knowledge will be eligible to be considered for publication in **MISQ Discovery**. Although remaining within the **ISWorld Net** hierarchy, they will also be listed as **MISQ Discovery** publications. Such publications will be required to carry, on the first screen, immediately below, the ISWorld Net logo, an **MISQ Discovery** publications logo as shown below.

Unless a submission falls within some other organization such as **ISWorld Net**, we would expect that submissions would conform to the existing publications standards of **MISQ Discovery**.

Living versus Archival Publications

Electronic Publications, unlike paper ones, can be readily modified. This presents both opportunities and problems. Updates destroy the trail of scholarship, which provides a basis for the reward system that lubricates the progress of research. On the other hand, errors embedded in paper archives are compounded through subsequent citation. Moreover, some of the value that researchers can add to knowledge, such as organizing it in some useful way, will be impacted if the information itself is dynamic. Thus, for instance, a survey on

electronic commerce on the World Wide Web, written in January of 1996 would have little relevance for a reader in October of 1997 unless it had been updated. Therefore **MISQ Discovery** will publish both "living" and "archival" works as described below. Neither category are to viewed as representing greater or lessor scholarship. Rather, they have a different purpose.

Archival Publications

Works designated as "archival" will only be subsequently edited to correct typing, spelling, grammar, or to update links - and then only if the original linked to site has moved or is no longer available. Responsibility for such updates, though not required, is the authors. But such changes must be reported to the Editor-In-Chief. All updates must be carefully documented in an update document, accessible from the first screen. This document may also contain, at the producer's discretion, descriptions of other errors that can otherwise not be corrected (e.g., errors in statistical analysis). Works so published will also carry on their first screen an **MISQ Discovery Archive** logo, including the date of publication.

Living Publications

Works that are intended to be dynamic will permit, and require, unrestricted modification of links. Such works must provide at the very top of their first screen a linked **MISQ Discovery Living Scholarship** logo, including the date of publication (we will provide this). It should link to the MISQ Discovery home page. Such productions must also contain a pointer to a separate file, maintained on the **MIS Quarterly's** server. This file will contain a version of the work that was first published. The link should be from the following sentence, that should appear so as to be visible on the first screen. *This "living scholarship" is published in MISQ Discovery. The originally accepted work is available in the MISQ Discovery Archive* where "MISQ Discovery Archive" is linked to the original. At the bottom of each page of the "living work" it should say, *"This living work was published in* **MISQ Discovery Archive** *on [date]. The originally accepted work is available in the* **MISQ Discovery Archive**. *This living version is maintained by [author name]. Corrections, clarifications, and suggested modifications should be directed to him at [linked email address]. Serious problems should be referred to the Editor-in-Chief."* Where "MISQ Discovery" is linked to the journal's home page, " **MISQ Discovery Archive**" is linked to the archival version of the paper and the reference to the Editor-in-Chief should be linked to the **MISQ Discovery Archive** Editors page. An example of this is available.

The archival version should say near the top, *This is the original*

archival version of this "living scholarship". It has been unchanged since the work was accepted on [date]. Readers are referred to the live, and recently updated version of the work. Where "recently updated version of the work" should be linked to the living version. At the bottom of each page in the archival version it should say, " *This work was published in* **MISQ Discovery Archive** *on [date]. This is the archival version. A living version is maintained by [author name, optional link]. Corrections, clarifications, and suggested modifications should be directed to him at [linked email address]. Serious problems should be referred to the Editor-in-Chief.*" Here **MISQ Discovery Archive** should be linked to the journal's home page and "living version" should be linked to the living version of the work. An example of this is <u>available</u>.

Works that are not maintained or are otherwise not in compliance with these guidelines, will be noted as "retired" on the **MISQ Discovery** Index and the link to the living work will be removed.

Living works can be resubmitted any time after 36 months from the initial publication date. Producers wishing to resubmit living works are required to document a consistent set of improvements over time as well as evidence of the production's value to the field during the most recent 12 months. Such publications will carry multiple, dated, **MISQ Discovery** logos.

Review Process

We have instituted a traditional "peer" reviewing process. A member of the editorial board and reviewers will assess the underlying scholarship and innovation of each submission. Reviewers will submit electronically a detailed written recommendation to the assigned editor who will, in turn, assess the work and write his or her own recommendation. There are currently few high quality alternative outlets for publishing the kind of multimedia and interactive work we seek; therefore, in the first several years we will heavily depend on the editorial board both to identify opportunities and to add value to submitted works.

To further enhance the value adding aspect of the review process, those submitting works, will have the option of listing their submissions on an "Open Submissions" bulletin board, thus permitting those with an interest in the work to explore and comment upon it. Author identities will be known to reviewers but reviewers will not be identified to authors. Futher information regarding submission procedures is available.

Publications Schedule

We do not anticipate publishing many pieces in our first several years as people begin to transition to this new media. We will publish articles as they are accepted and announce them over the ISWorld communications list and in MIS Quarterly. As there is no economic reason to group articles together and as we expect few during our first several years, we will publish single articles for the forseeable future. Articles published in MISQ Discovery will also be abstracted in MIS Quarterly and listed in the MIS Quarterly's table of contents.

Engine Rooms

Unlike paper publications, electronic ones can be multidimensional. Thus a work intended to extend our knowledge of electronic cash might employ a sophisticated multi-media technique to communicate its message to the reader. Although the latter contribution might not be unique in its own right, it will still be of interest to many. Engine rooms, first conceived of for ISWorld Net provide such an opportunity. "Engine rooms" are not reviewed for scholarly contribution nor are they necessarily illustrative of "the best way". They are instead intended as relatively informal methods to enhance organizational learning. An engine room page may be required prior to acceptance of the work.

MISQ Discovery also has its own engine room, also known as the "editor's corner", a place which the Editor-In-Chief will use periodically to promote a vision of electronic scholarship. Early entries thank some of the key participants and reflect further on the changing world of knowledge creation and dissemination.

This page is maintained by the **Editor-In-Chief** who welcomes your feedback at **bives@lsu.edu**. It was last updated on 12 November, 1998.

INFORMATION FOR AUTHORS

MISQ
Discovery

Introduct ion

Format

Web

Server

Information for Authors

This page describes the procedures for submitting works to **MISQ Discovery**. Please also read the "Call for Submissions" document. Works must reside on the worldwide web and be accessible from a client equipped with a readily available WWW browser such as Netscape or Internet Explorer or a PDF viewer such as Acrobat. Other formats will be added as technologies mature. Submissions are encouraged that push the frontiers of presentation and interactivity. We will assume that your reviewers and visitors will be able to easily equip themselves with publically available browsers and readers. We recognize that some visitors, particularly those using narrow bandwidth connections may not be able to fully utilize some productions.

To protect author identities, we will provide prospective authors with server space on an **MIS Quarterly** server after submissions have been reviewed by a member of our editorial board on your server. Living works, once accepted, will reside on a server provided by the author, although we will require an archival version be stored on an **MIS Quarterly** server. Archival acceptances will be housed on an **MIS Quarterly** supplied server.

Submission Procedures

Submissions will be in the form of an electronic mail message (eventually a form) sent to the Editor-In-Chief at <u>bives@lsu.edu</u>.. The message must contain the following information:

1. The full name, institution, addresses, and phone numbers of the contributor[s]
2. Identification of the contributor who will be the contact person
3. The Email address of the contributor
4. The Title of the Submission
5. A WWW Uniform Resource Locator for the submission
6. Optional recommendation of an <u>Editorial Board</u> Member to serve as editor
7. Notification if you **do not** want the submission publically listed
8. Any unusual technical requirements

Submission Confirmation

Within several days after submission you will receive a confirmation from the Editorial Offices that your submission has been received. A number will be assigned. to the submission. If you do not receive either the message or a confirmation number within a week, please contact the Editor-In-Chief at <u>bives@lsu.edu</u>..

Status Checking

We will soon be establishing an online status checking facility for submissions, modeled after the system already in place for the **MIS Quarterly**. Producers may also, after a reasonable time, query the Editor-In-Chief regarding unanticipated delays in processing the submission.

Review Process

One <u>editorial Board</u> member will be responsible for overall oversight of a submission. If the board member deems the submission worthy of further review, he or she will solicit reviews and, once those reviews have been received, provide the Editor-in-Chief with a recommendation of acceptable, minor revisions, major revisions, revise and resubmit, or unacceptable for further consideration. The individual reviews and the recommendation of the Editorial Board member are advisory to the Editor-in-Chief who will retain final decision making authority for the initial decision as well as any necessary revisions. Unless the author specifically requests, submissions will be linked to from a "works in progress" page, and be available for public comment.

Although producers will not be aware of the identity of either the editorial board member or the reviewers, the identity of the producer[s] may be available to the reviewers.

This page is maintained by the Editor-In-Chief who welcomes your feedback at bives@lsu.edu.. It was last updated on 9 December 1996.

FOUNDING EDITORIAL BOARD

MISQ Discovery
Founding Editorial Board

The following lists the founding editorial board for MISQ Discovery. Although we subsequently chose to rely on the MIS Quarterly editorial board for MISQ Discovery, we are most appreciative of these individuals for lending their names to MISQ Discovery. Most of these individuals served from June of 1995 until the board was retired on June 1st of 1997.

E ditor in Chief

Blake Ives, Southern Methodist University
Email to bives@lsu.edu
(Appointed June, 1995).

E ditorial Board

Izak Benbasat, University of British Columbia
Email to izak.benbasat@commerce.ubc.ca
(Appointed June, 1995)
Garardine DeSanctis, Duke University
Email to gd@mail.duke.edu
(Appointed January, 1997)
Thomas Ho, Indiana University Purdue University Indianapolis
Email to ho@tech.iupui.edu
(Appointed June, 1995)
Sid Huff, University of Western Ontario
Email to shuff@novell.business.uwo.ca
(Appointed June, 1995)
Sirkka Jarvenpaa, University of Texas at Austin
Email to sjarvenpaa@mail.utexas.edu
(Appointed June, 1995)

Ajit Kambil, New York University
Email to akambil@stern.nyu.edu
(Appointed June, 1995)
John King, University of California at Irvine
Email to king@ics.uci.edu
(Appointed June, 1995)
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(Appointed June, 1995)
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(Appointed June, 1995)
Rick Watson, University of Georgia
Email to rwatson@uga.cc.uga.edu
(Appointed June, 1995)
 Bob Zmud, Florida State University
 Editor-in-Chief, Management Information Systems Quarterly
 Email to bzmud@postoffice.cob.fsu.edu
 (Appointed June, 1995)

This page is no longer being maintain. It was last updated on 2 June 1997.

EDITORIAL BOARD

MISQ Discovery
Editorial Board

E
ditor in Chief

Blake Ives, Southern Methodist University
Email to bives@lsu.edu
(Appointed June, 1995).

E
ditorial Board

The founding editorial board was retired on June 1st of 1997 as part of our efforts to more tightly align MISQ Discovery with the MIS Quarterly. There is now a single board for the two enterprises, with MISQ Discovery being a division of MIS Quarterly. The MISQ Editorial board is accessible from here.
The following individuals serve on that board but have a special responsibility towards MISQ Discovery.

Garardine DeSanctis, Duke University
Email to gd@mail.duke.edu
Michael Myers,, University of Auckland
Email to m.myers@auckland.ac.nz
Rick Watson, University of Georgia
Email to rwatson@uga.cc.uga.edu
  Bob Zmud, Florida State University
  Editor-in-Chief, Management Information Systems Quarterly
  Email to bzmud@postoffice.cob.fsu.edu

D
esign Editors

To address the opportunities for innovation in publishing and scholarship the MIS Quarterly and MISQ Discovery have appointed two design editors. We anticipate that these individuals will help us to push the frontiers of electronic scholarship.
Munir Mandviwalla, Temple University
Email to mandviwa@vm.temple.edu
Mike Parks, University of Houston
Email to PARKS@UHUPVM1.UH.EDU

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This page is maintained by the Editor-In-Chief who welcomes your feedback at bives@lsu.edu.. It was last updated on 2 June 1997.

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1997

June

Qualitative Research in Information Systems [Archive | Updated]

Michael D. Myers

Editorial
Second Edition
Living Scholarship

1996

September

Teledemocracy: Using Information Technology to Enhance Political Work [Archive]

Pål Ytterstad
Sigmund Akselsen
Gunnvald Svendsen
Richard T. Watson

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First Edition Announcement
Acknowledgements
The Old Empire
Collaborating on **MISQ Discovery's** Design
and a Response from Michael Parks.

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APPENDIX E.1

REVIEW PROCESS OF FIS

Section A - general

7. Article is submitted to one of the editors
8. Article is acknowledged

Section B - Peer review

21. Accepting editor reads the article
22. Editor selects an associate editor and send the article
23. Associate Editor selects three reviewers
24. Reviews review the article using a review form
25. Reviewers respond
26. Associate Editor writes his/her comments and recommendations
27. If article is accepted go to Section B1
28. If article is rejected go to Section B2
29. If article is accepted with revisions, editor will send recommendation + editor's comments to the author
30. Author agrees to revise the manuscript
31. A new manuscript received go to step 4

Section B1 - An article is accepted

18. Author receives an e-mail to let him/her know that the article is accepted
19. If the article is in the template format, go to 4
20. If not, the article is converted to match the standard template
21. Post
22. A print copy of the article is saved in the FIS offices
23. An ISWorld listserv message is issued.
24. Go to END

Section B2 - Rejected articles

6. A note to effect is sent to the author
7. Go to END

END -

The above process describes a review process typical to FIS. However, FIS does not always follow the same review process. FIS uses standard review forms but does not use standard acceptance or rejection letters, or copyright agreements. All communications referred to in this appendix is electronic unless stated otherwise.

APPENDIX E.2

OBJECTIVES OF FIS

Objective

The objective of the journal is to develop a philosophy of information technology. The term information technology is used in a broad sense to refer to any hardware, software or organizational arrangement that facilitates the management and communication of information. This philosophy will guide us in our efforts to deploy IT in ways which improve the human condition in the dawning millennium. Information technology has more far reaching ramifications for humankind than any of its technological predecessors. To the greatest extent possible, we must understand the implications of IT, so that its effects can be managed toward humanely responsible goals and ideals.
The purpose of FIS is to offer a forum for scholarly works which:

- pose fundamental questions about information systems;
- demonstrate disciplined and scholarly efforts to answer or clarify such questions; and
- further the understanding of the electronic revolution by recording its historical developments, people, and their decisions.

About the Journal

This journal is a result of a discourse involving three generations of academics in the field of Information Systems Research. It is a continuation of five years of seminars, panels, conference sessions, and most recently, a conference mini track (1996, and again in 1997) in the Americas Conference on Information Systems in Phoenix, Arizona). Originally organized by Jim Courtney (the U.S.), Jaana Porra (Finland), John Haynes (Australia) and William Hodges (Canada), this series of papers and presentations about the foundations of information systems has attracted an international group of scholars of all ages, cultures, languages, and educational distinctions.
The FIS editors share the concern of some academics in the information systems field that issues of importance have remained outside the main stream information systems journals. In its broadest terms, this omission can be called "The Philosophy of Information Technology" This means understanding the fundamental beliefs (or assumptions or axioms) about the ways in which information systems are used for human kind.

Computers and global computer networks have the potential to change most all aspects of human life at the societal, economic, organizational, group and personal levels. Computers change what, where, how, why, when, and with whom people share information. They may even change what human beings are. We suggest that to the greatest extent possible, we must

understand the implications of information technology so that its affects can be managed in ethically responsible ways.

Academia is confronting an identity crisis. Some believe that the future of academia lies in becoming more pragmatic. According to this viewpoint, the value of scholarship is in its ability to create immediate aids for everyday problems. FIS takes a different viewpoint. We believe, that the role of a researcher as an objective spectator/documenter should be complemented with the responsibility of being a conveyor of wisdom from one generation to another. In the past this inheritance has taken place by personal contact, continuous discourse and friendship. It has evolved in the stories of people, events, and discoveries which have occurred over several generations. We feel that one purpose of academia is in the creation of knowledge which is achieved by interacting with the discipline's history of successes and failures.

FIS affords you the opportunity to express your positions on the fundamentals of information systems and the impact they have on the humanity they serve.

APPENDIX E.3

FIS EDITORIAL BOARD

EDITORIAL BOARD		
NAME	**E-MAIL** **WEB SITE**	
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CO-EDITOR **Jaana Porra** University of Houston, USA	Jaana.Porra@bus.utexas.edu http://www.cba.uh.edu/~porra/index.htm	
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Michael S. Parks University of Houston, USA	parks@uh.edu http://www.cba.uh.edu/~parks/parmich.html

APPENDIX E.4

FIS EDITORIAL POLICIES

	EDITORIAL POLICIES

Many minds, many world views, and much debate is necessary to bring the objectives of this e- journal to fruition. Thus, the policies of the journal are designed to provide an open forum for the presentation and refinement of ideas. By engaging diverse perspectives and encouraging open discussions, it is hoped that a consensus concerning a philosophy of information technology will ultimately emerge. Therefore the policies are designed to encourage the submission of papers and open discussion of those papers.

Organization and Procedures

The journal will have an editor or co-editors who are responsible for the journal's policies, procedures and other administrative functions. The editor or co-editors will name an Editorial Advisory Board who will assist in establishing policies and procedures as well as manage the review process. Also, the editors and members of the editorial advisory board will establish an Editorial Board who will serve as experts and reviewers.

Submission Procedures

Papers may be submitted in one of two ways:
1. in electronic form to one of the co-editors
   or
2. as a link to the paper at another Web site. In either case, the paper's format should follow the format outlined in that in the Author's Submission Kit described below.

Author's may choose to remain anonymous.

Three categories of papers will be maintained:
1. Papers Under Review
   Papers submitted for a review will be placed on the FIS Web-page under a category called Papers Under Review (either as an abstract followed by a complete paper or as an abstract followed by a link to the author's Web page).

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Papers appearing in this category are considered as working papers. They have not been formally reviewed for FIS. Thus, all submitted papers will appear in this section of FIS while waiting for and during the formal review process unless the authors specify their desire not to appear in this category of FIS at all. If the authors choose to abstain from Papers Under Review -category, their paper will be reviewed in confidentiality.

2. Published Papers

The Editors together with the Editorial Advisory Board appoint a manager for the formal review process from the group consisting of the Editors, the Editorial Advisory Board and the Editorial Board. The manager is responsible for the review process which will be conducted by three manager appointed reviewers. Accepted papers will appear under the FIS category of Published Papers. If the paper used to appear in the Papers Under Review -category during the review process, this reference is now removed.

3. Outstanding Papers

Each of the three reviewers have the option of rewarding the paper under review with the Thinker Award. If all three reviewers award a Thinker Award to the paper it will appear in the FIS category of Outstanding Papers. Outstanding Papers category is reserved for the academic leadership in pursuing the objectives of FIS. This means that the work, in all three reviewers' opinion, represents the very highest academic standards in the pursuit of knowledge and wisdom which will be passed of to the next generation of academics with similar aspirations.

To be awarded with a Thinker Award, the paper has to demonstrate academic leadership in ethical standing and quality of research. The Thinker Award refers to demonstrating originality and discipline in understanding and managing the effects of information technology on the human kind toward humanely responsible goals and ideals. The recipient of a Thinker Award demonstrates an outstanding effort to command the highest ideals of academia of all times.

About Volumes and Numbers of FIS

There will be no attempt to collect papers into conventional journal volumes. The date of acceptance, title, and authors' names, affiliations, email addresses and links to their home pages (if applicable) will appear on the page of the abstract of the paper, the paper itself or a link to the paper on the authors' home page.

The Comments Page

Every paper in any FIS category will have a Discussion Forum attached to it. The Discussion Forum is meant for comments from the audience. Anyone who wishes to post a comment should email it to the editors who will take care of posting it on FIS pages.

Disclosure

FIS is an electronic journal which operates independently of ISWorld Net. Currently, FIS has a symbiotic relationship with a particular the ISWorld Net Research section, called the "Philosophical and Conceptual Foundations of Information Systems" (section

editors Jaana Porra, Rudy Hirschheim, and Kalle Lyytinen). While FIS is a journal striving for high quality contributions, the "Philosophical and Conceptual Foundations of Information Systems" section of ISWorld Net is a virtual, collaborative work area for free format discussion, idea testing and sharing of work-under- development for all scholars interested in understanding and advancing the philosophical and conceptual foundations of information systems.

APPENDIX E.5

FIS INSTRUCTIONS FOR AUTHORS

	HOW TO SUBMIT AN ARTICLE TO: FOUNDATIONS OF INFORMATION SYSTEMS
February 15, 1997	

CONTENTS
1.0 GENERAL CONCEPTS
2.0 SECTIONS and ORGANIZATION
3.0 TABLES and FIGURES
4.0 REFERENCES
5.0 DOWNLOAD YOUR SUBMISSION KIT [fiskit.htm] HERE
6.0 QUESTIONS?

1.0 GENERAL CONCEPTS

The FIS submission process involves 5 steps:
1. Read these instructions carefully.
2. Download the Submission Kit (see below)
3. Cut and paste the sections of your paper into the format provided in the FISKIT.HTM file
4. Save the file (pick your own filename for the resulting HTML file) on YOUR server
5. E-mail Courtney or Porra with the URL of your paper

2.0 TITLE, ABSTRACT, SECTIONS and GENERAL ORGANIZATION

We attempt in FIS to provide a standard format for all papers. This format is predicated on the idea that:
1. All papers appear in a single file -- thus they are amenable to printing
2. All papers carry the FIS logo and conform to a particular artistic style
FIS papers have a standard title format (the format of this section's title is an example). The title box is an HTML table. The HTML code is:

```
&lttable border="4" cellspacing="0" cellpadding="0">
&lttr>&lttd width="1%">&ltimg src="fislogo.gif" border="0"></td>
&lttd width="99%">
&ltcenter>&ltp>&ltfont size=4 FACE="Times New Roman">
&ltb&gtYOUR TITLE GOES HERE IN ALL CAPS</b></center></td></tr>
&lttr>&lttd>&ltp>&ltcenter>&ltfont size=4 FACE="Times New
Roman">&ltb&gtMONTH, DAY, YEAR FORMAT</b></center></td>
&lttd>&ltfont size=4 FACE="Times New Roman">&ltcenter>&ltp>&ltb&gtAUTHOR
#1 NAME AND AFFILIATION&ltbr>
AUTHOR #2 NAME AND AFFILIATION, etc.</b></center></td></tr>
&lttr>&lttd colspan="2">&ltfont size=4 FACE="Times New
Roman">&ltcenter>&ltp>&ltb&gtABSTRACT</b> &ltp></center></td></tr>
&lttr>&lttd colspan="2">&ltfont size=4 FACE="Times New Roman">
&ltb&gtTEXT OF THE ABSTRACT GOES HERE</b></td></tr>
&lttr>&lttd colspan="2">&ltcenter>&ltb>&ltfont size=4 FACE="Times New
Roman"&gtCONTENTS</b></center>
&ltol>
&ltli>&lta href="#s1">&ltfont size=4 FACE="Times New
Roman"&gtINTRODUCTION</a>
&ltli>&lta href="#s2">&ltfont size=4 FACE="Times New Roman"&gtSECTION 2
HEADING</a>
&ltli>&lta href="#s3">&ltfont size=4 FACE="Times New Roman"&gtSECTION 3
HEADING</a>
&ltli>&lta href="#s4">&ltfont size=4 FACE="Times New Roman"&gtSECTION 4
HEADING</a>
&ltli>&lta href="#sx">&ltfont size=4 FACE="Times New Roman"&gtSECTION X
etc.</a>
&ltli>&lta href="#ref">&ltfont size=4 FACE="Times New
Roman"&gtREFERENCES</a>
</ol>
</td></tr></table>
</center>
```

Beyond the title, author(s), date and abstract information, this format provides a table of contents that allows forward links into the body of the paper. Each section begins with a HTML NAME tag to provide an anchor to the beginning of the section. Similarly, a link is provided to the reference list at the end of the paper. Each section begins with the following HTML code:

```
&ltA NAME="#sX">
&ltp>
&lttable border="4" cellspacing="0" cellpadding="0" width="100%">
&lttr>&lttd width="1%">&ltimg src="fislogo2.gif" border="0"></td>
&lttd width="*" align="middle">&ltcenter>&ltp>&ltp>&ltfont size=3
FACE="Times New Roman">&ltb&gtX. SECTION HEADING&ltBR>
</FONT></b></center></td></tr></table>
&ltP>
```

Note that the X in the NAME tag and the SECTION NUMBER correspond to the section number in the table of contents.

3.0 TABLES and FIGURES

The following sample table:

SAMPLE TABLE		
row 1 col1	row 1 col2	row 1 col 3
row 2 col1	row 2 col2	row 2 col 3
row 3 col1	row 3 col2	row 3 col 3

is produced by this HTML code:

```
&ltcenter>
&lttable border="4" cellspacing="0" cellpadding="0">
&lttr>&lttd width="100%" colspan="3">&ltbr>&ltcenter>&ltfont size=4
FACE="Times New Roman">&ltb&gtSAMPLE
TABLE</b></center></FONT>&ltp>&ltp></td></tr>
&lttr>&lttd&gtrow 1 col1</td>&lttd&gtrow 1 col2</td>&lttd&gtrow 1 col
3</tr>
&lttr>&lttd&gtrow 2 col1</td>&lttd&gtrow 2 col2</td>&lttd&gtrow 2 col
3</tr>
&lttr>&lttd&gtrow 3 col1</td>&lttd&gtrow 3 col2</td>&lttd&gtrow 3 col
3</tr>
</table>
</center>
```

4.0 REFERENCES and FOOTNOTES

The following examples should be used for book and article citations:

Jeeves, Mahatma Kane (1968) I Was A Teenage Werewolf, Addison-Wesley, New York, USA.

La Fong, Car (1990) &quotI was Not A Teenage Werewolf", Journal of Wierd Research, Vol. 3 No. 5, pp 56-99.

Do not attempt to link the citations in the paper to the reference list.

5.0 DOWNLOAD YOUR SUBMISSION KIT

Click on the following three files, then save them on your own disk:
1. Click here for the FIS Sample paper
   You will see a sample FIS paper in your browser.
   Click FILE, then SAVE AS to save the file to you disk.
2. Click here for the FIS logo (fislogo.gif)
3. Click here for the small FIS logo (fislogo2.gif)
   You will need them both. Be sure to save these two files in the same directory as your *fisample.htm* paper

---

6.0 QUESTIONS

Send e-mail to Parks@bau.cba.uh.edu

APPENDIX F.1

JEP'S EDITORIAL BOARD

- Ursula Bollini, Manager, New Markets and Special Sales, Oxford University Press
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- John Unsworth, University of Virginia
- Steve Worona, Assistant to the Vice-President for Information Technologies Cornell University/Office of Information Technologies

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APPENDIX F.2

DEMOGRAPHIC INFORMATION

In mid-1998 JEP checked Its subscriber list, and found the following breakdown of users:

Domain	edu	com	org	uk	net	ca	gov	others
Percentage	30%	23%	9.7%	5.5%	5.5%	3.4%	1.3%	21.6%

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APPENDIX F.3

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   "Keep these people in mind when you write"

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Last name:

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address:

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☐ I am an author in the electronic environment.

☐ I would like to be an author in the electronic environment.

☐ I am a scholar of electronic publishing.

☐ I am a librarian.

☐ I am a reader of electronic publications.

☐ I am a consultant, archivist, vendor, other in the electronic-publishing environment. *(Explain below, if you wish.)*

☐ I am a big fan of electronic publishing.

Here are my unsolicited comments:

If you wish, you may include here any indentifying information about yourself, such as your title, your favorite ice-cream flavor, or your opinon on how well JEP is doing its job.

APPENDIX G.1

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for the
Journal of Information, Law and Technology

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- Professor Abdul Paliwala (A.Paliwala@warwick.ac.uk),
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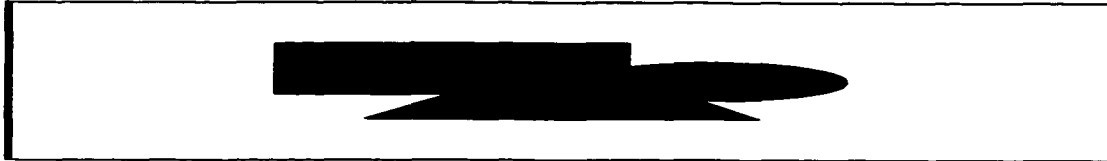
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- Production Editor:
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  University of Warwick, UK.

APPENDIX G.2

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APPENDIX G.3

BACKGROUND INFORMATION

About the
Journal of Information, Law and Technology (JILT)

Charlesworth Award Winner

- Background
- Objectives
- Scope of the Journal
- Participants

- Contacting JILT
- The Team
- Mailing List
- Annual Report 1996 | 1997

Background

JILT is a new and innovative electronic law journal covering a range of topics relating to IT law and applications. It contains a diversity of materials including peer reviewed and non-refereed articles, work in progress, book and conference reviews. JILT is the first in a series of ejournals published in the Electronic Law Journals (ELJ) environment which will provide a forum for continuing dialogue for law.

The JILT team have established a very high standard that is shaping the future of electronic legal journals. They will ensure that they consistently deliver a combination of scholarly content, good design and a user-friendly approach. With an international advisory board, JILT is of immediate appeal to an international audience of legal academics, legal practitioners and anyone interested in technology as it relates to study and practice of law.

The first issue of JILT was published on 31 January 1996, and received acclaim from its users. The following issues have generated equal enthusiasm, and during the first week following the publication of 1996 Issue 3, 817 sessions were recorded. The latest issue, 1997 Issue 1, was published on 28 February, 1997 and atracted 1753 sessions, thus an increase of 115%.

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The publication is available free of charge.

Objectives

- Establish a high standard for electronic law journals

- Provide users with extensive and intelligent hyperlinks to primary and secondary sources

- Facilitate faster publication than for traditional law journals

- Encourage continued debate between authors, reviewers and, eventually readers

- Promote the publication of research and authoritative features

- Have an international emphasis

- Develop a dynamic environment where articles change as new ideas emerge from discussions

- Establish effective electronic communication between authors and editors

Scope of the Journal

JILT covers a wide range of topics relating to IT Law and IT applications in law and has already published material by prestigious national and international authors and includes:

- Scholarly peer reviewed articles

- Short articles and notes on topical subjects

- Downloadable applications and demonstrations

- Application reviews

- Conference reviews

- Book reviews

- Discussion

- Consultation documents

- Work in progress

- Text of relevant legislation and law reports

- Diary of events

Participants

JILT is a joint project involving:

The *cti* CTI Law Technology Centre at University of Warwick
and

Centre for Law, Computers and Technology at Strathclyde
University.

JILT is currently funded by the Electronic Libraries Programme *eLib*,
which was established by the Joint Information Systems Committee (JISC) as
a direct response to the Follett Report.

Contacting JILT....

JILT is available at:
http://elj.warwick.ac.uk/jilt/

By email:
editor@themis.law.warwick.ac.
uk

By Post:
Information Officer (JILT)
c/o CTI Law Technology
Centre
University of Warwick
Coventry CV4 7AL
UK

By Fax:
+ 44 (0)1203 - 52 4105
(Warwick)

Comments Home Page Home Page Indexes Latest Issue Help

Last altered: 21 April 1998

APPENDIX G.4

1996 ANNUAL REPORT

The Project's mission is to establish an electronic journal environment for law, so as to promote a culture for writing and reading electronic law journals.

1. Activities and Progress

The main objective for the first year was to establish an Electronic Law Journals (ELJ) environment and publish two editions of a Journal of Information, Law and Technology (JILT). In spite of the fact that the project started effective operation later than planned, the objective has been successfully achieved. The main criteria we set out for ourselves have been fulfilled:

- JILT has successfully met its publication targets and more articles have been published (refereed and unrefereed) than was originally proposed (see appendix).
- The Journal has been well received. The logs suggest an that individual sessions (excluding ELJ staff) average more than 70 per day leading to over 12,000 sessions in the six months since first publication (see appendix). This compares very favourably with other electronic law journals.
- JILT has a strong refereed section.
- It is a discursive 'living' law journal which provides opportunities for discussion of articles, an opportunity which has been utilised in a number of cases and which also provides authors with opportunities to revise their articles.
- It includes additional reference materials such as the text of legislation where appropriate.
- It also provides extensive hypertext links to cross references within an article, to other articles in the same or other issues, to relevant resource materials and to other articles and material on the World Wide Web.
- It has also included innovative demonstrations of software both on-line and by downloading.

The project milestones also suggested that we would embark on parallel publishing projects. Initial discussions have commenced with a number of journal editors and publishers.

On the administrative side, a good working relationship has been established between the two consortium partners, staff of good skills and commitment have

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been appointed. An international advisory board has been appointed, and a broader steering group has been established. A good relationship has also been established with the eLib programme 'god parent' and co-ordinators who have been very supportive. Formative evaluation has been of assistance in the development of the journal environment and an evaluation plan has been developed.

While our main intention during the year has been to establish the journal environment and publish JILT, the Journal has been widely publicised through a number of resources including relevant newsgroups, publicity at a number of conferences including the annual conference of the *Society of Public Teachers of Law* and the *International Conference on Substantive Technology in Legal Education* at Montreal as well as at roadshows by journal staff and by the CTI Law Technology Centre. A particular innovation has been the establishment of a discussion group to promote electronic journals generally as part of our 'culture change' mission.

2. Learning from the Process of Implementation

We have from the outset intended to be frankly experimental and not merely to conceive of electronic journals as pale imitations of paper ones. After one year of operation and discussion of this concept with a variety of users and journal developers, including some at the Montreal Conference, we remain convinced that while this is a much more onerous task than imitation of paper journals, this has to be the correct strategy for the future.

We also remain convinced that a major achievement of the electronic journal project has to be improvement in the processes of communication (including the call for papers, refereeing etc.) involved in the production of journals, whether paper or electronic. Nevertheless, convincing readers to read, and authors to write for the journal has, in the short to medium term, to be based upon non-electronic publicity. A number of minor changes have been made to the project as originally planned. The project has been re-titled as the *Electronic Law Journals Project* which reflects better our intention of providing a journal environment. We have also re-titled the first journal to the *Journal of Information Law and Technology* as opposed to the *Journal of Legal Informatics*.

We published our first issue within five months of our effective starting date and within three months of gaining a full complement of staff. However, this could only be achieved because of the enormous commitment and sacrifices of the staff and the editorial team. The key staff members worked well beyond the call of duty. In our view, while a target for publication in the first year is a desirable objective, it may have been less stressful if our first publication had been delayed. While we achieved the general technical targets we set for ourselves for the first year of establishing an electronic journal environment, the concentration on publication has slowed down some technical developments such as full automation of page mark-up.

We believe that the skills level required of the information officer post was higher than we had the right to expect from the level of appointment. We are considering an appointment at a higher level.

An electronic journal environment requires at least one staff member with good graphic skills. As we do not currently have a staff member with those skills we have improvised with the assistance of students from Coventry University.

While the relationship between Strathclyde and Warwick has been very smooth, and an effective means of communication has been established through electronic mail and WWW organisational pages, having two technical sites may increase the workload of the staff. We have also decided upon consultation with our FIGIT god parent that a wider steering group would usefully supplement the efforts of the project management team, and have proceeded to appoint such a group.

We are well aware that a major problem is to improve the intellectual credibility of electronic journals. We believe we have taken major strides towards this achievement with the quality of articles and other innovations. However, the ultimate success of the project will depend on the success of web publishing as a whole. This depends to a large extent on 'cultural' factors, but to a significant extent also on technical factors such as speed and efficiency of delivery on the web. A final consideration in success will be the development of effective charging mechanisms and overcoming the resistance of users to pay for web based products. The next two years will be crucial for this.

The long term strategy for future development is discussed later. Our original intention to plan the second stage of the project with publication of a second in-house journal as well as parallel publishing has changed. It has now been decided that rather than have a strategy of producing just one additional in-house journal, we should use our resources primarily to encourage and support other institutions and groups to publish original journals as well as support parallel publication within the ELJ environment.

3. Evaluation

Evaluation Plan [1]
Electronic Law Journals Project
Project Number 2/33

The project evaluation scheme is based on the targets as laid out in the project plan as modified from time to time.

3.1 Formative evaluation

A. Advice and assistance is obtained from the the steering group, the BILETA executive and the advisory editorial board members on a regular ongoing basis. The recently appointed steering group is also a source for formative evaluation. In addition advice and assistance is sought from others with technical expertise, such as the Law Courseware Consortium and the Strathclyde Centre for Law, Computers and Technology and from the staff and students in the Technical Communications course at Coventry University.

B. Comments and suggestions from readers and others is received through the on-line forms within the existing journal and from our discussion list on mailbase 'law-ejournals'.

C. Questionnaires will be used to gain feedback from a wide audience according to the following timetable for the next year.

October '96 - December '96	Post Issue 3 Questionnaire of readers through e-mail and WWW
October '96 - December '96	Poll of authors involved in contributing to JILT
November '96 - January '97	Poll of non-users using wider methods (including non-electronic)
January '97 - March '97	1st annual review of JILT (Issue 4)

We will also add a questionnaire at each new issue subsequent to Issue 4 that will focus on that particular issue.

D. Quality control will be evaluated by project staff against a set of benchmarks. i.e. validation of HTML, links checked and notification to author. Regular reports will form part of the Project Management System.

E. Formative evaluation has also been obtained from demonstrating JILT at relevant conferences and workshops.

F. It is proposed to set up an electronic ELJ User Group in collaboration with the steering committee, a number of people external to the project have already expressed an interest.

3.2 Summative evaluation

A) Statistical evaluation.

I. The journal staff will maintain records and produce reports of the number of articles published and information on readership, e.g. number of hits, sessions, downloads etc. for the management and steering committees.

II. The number of other journals that form the project will be a yardstick for evaluation in that the more quality journals we have will enable us to attract a broader spectrum of reader. We also have targets for the number of articles published within JILT.

III. The number of sites that link to us will provide a measure of how widely we are known.

B) Qualitative evaluation

The editors of JILT will commission independent qualitative evaluation of both the quality of articles within JILT and its interface. The citation of our articles in print and electronic journals will be noted by project staff as a measure of how widely the JILT has been disseminated.

C) Quantitative Evaluation

The questionnaires referred to in the formative evaluation section will also be used in the final year of the project as part of the process of summative evaluation.

D) External Communication.

The number of articles that are refereed using the network as opposed to postal or fax methods will be logged and it is a measure of evaluation that this number increases per issue although we will not set hard targets.

4. Future Development

Having established the first journal our objectives for the next year are:

1. To continue to publish JILT and in particular to achieve better discussion.
2. To develop one new original journal and a number of parallel publications.
3. To continue to improve the technical environment for the journal, particularly through an improved conferencing system, improved software demonstration facility, increased automation of the production process.
4. Investigate the charging framework.
5. Explore the future sustainability of the journal project.

The general project aims remain the same, however some minor modifications have been made. Most significantly, we are convinced that a major effort has to be made to introduce parallel publishing of existing paper journals. There are two reasons for this. Paper publications already have an established readership to whom electronic readership can be offered as an additional incentive at not too great a cost. The overheads for parallel publication can be much lower than those for original publications and therefore many more journals can be published. Furthermore, parallel publication is the most likely intermediate stage in the transition from the dominance of paper publications to that of the electronic form as readers realise the enormous advantages of the electronic form over the paper form. However, there needs to be a continuing effort in the direction of original publication of at least one journal as this is necessary to establish the new innovative framework.

The original project plan was based on a subscription strategy based on the publication of two journals. As matters currently stand in web publishing generally, this may not be easy to achieve. It is for this reason that we are currently contemplating other approaches such as more extensive parallel publishing, advertising and sponsorship. Under the project plan, this strategy is intended to be developed during this year.

5. Appendices

Appendix A

JILT - Summary of publication in Year 1

Issue 1:

Refereed Articles:	7
Law / Legal Applications Mix:	4/3
Book Reviews:	2
Conference Reviews:	3 (1 reprint of print version)
News:	1

WIP*/Consultation Papers:	3
Software/Applications:	3
On Line demos:	1
Downloadable demos:	1
Special Feature:	1 non-reviewed contribution

Issue 2:

Refereed Articles:	6 (+ 1 revised version)
Law / Legal Applications Mix:	2/4
Book Reviews:	3
Conference Reviews:	3
News:	5 new + 1 updated
WIP*/Consultation Papers:	2
Software/Applications:	1
Downloadable demos:	1
Special Feature:	4 non-reviewed contributions

Items published in between issue dates:

Between issue 1 +2

Refereed Articles:	1
Forthcoming conferences:	updated 4 times
News:	1 item updated + 4 added

Between issue 2+3

WIP* Article:	1
Forthcoming conferences:	updated 3 times
Conference Reports:	3

News:	1 item added

Discussion on articles/news:

Defamation	2 (solicited)
Data Protection (consultation paper)	1 (unsolicited)
Electronic Journals	1 (solicited)
BILETA	4 (unsolicited)

*Work In Progress (WIP)

Appendix B

Contact Addresses

To View the WWW Sites:
http://elj.warwick.ac.uk/
http://elj.strath.ac.uk/

To Contact ELJ:

Information Officer

E-Mail:	pez@themis.law.warwick.ac.uk
Tel:	+44 (1203) 523523 Ext. 22520
Fax:	+44 (1203) 524105
Post:	Law Technology Centre University of Warwick Coventry CV4 7AL UK

or

E-Mail:	jilt@strath.ac.uk
Tel:	+44 (141) 552-4400 Ext. 3289
Fax:	+44 (141) 553 1546
Post:	Centre for Law, Computers and Technology University of Strathclyde 173 Cathedral Street

Glasgow G4 0RQ
UK

To Contact JILT:

E-Mail: editor@themis.law.warwick.ac.uk

Tel: +44 (1203) 523523 Ext. 22520

Fax: +44 (1203) 524105

Post: The Journal of Information, Law and Technology
               Law Technology Centre
               University of Warwick
               Coventry CV4 7AL
               UK

Appendix C

Server Access Statistics

Access to JILT servers for the first week following publication of issue one
Access to JILT servers for the first week following publication of issue two
Access to JILT servers for July 1996 (the sixth month on-line)

Appendix D

ELJ Project Management Group

The Project Management Group consists of:

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Appendix E

ELJ Steering Committee

The Steering Committee consists of:

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as well as the **Project Management Group**

Appendix F

JILT Editorial Board

The JILT Editorial Board consists of:

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Strathclyde University
Andrew Terrett
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University of Warwick

Appendix G

JILT Advisory Board

Members of the Advisory Board are as follows:

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(ander@u.washington.edu)
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Director, Faculty of Law, University of Paris, Sorbonne, France.

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Co-Director of Cornell Legal Information Institute, Cornell University, USA.

Professor Robert Clark
University College, Ireland.

Cathy Jackson (née Cope)
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Professor Henry Perritt
The Law School, University of Villanova, USA.
Charlotte-Marie Pitrat
Commissaire du Gouvernement aupres de la CNIL, France.
Professor Yves Poullet
Directeur du CRID (faculte de Droit)
Facultes Universitaires Notre-Dame de la Paix, Universite de Namur, Belgium.
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Director of Information Services, University of Warwick. UK.
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Appendix H

Business Strategy

Notes towards a revised business strategy

Over the last year, the management group have been considering the business strategy for the project. A draft business plan was developed (copy enclosed) and submitted as part of the second stage proposal for funding. In our view the basic analysis of this document is still relevant. However, a number of factors have arisen which require reconsideration of the financial strategy in a number of respects. We

suggest that the revised strategy will be developed by December 1996 taking into account the following:

The Market

The market for law journals consists of academic institutions, legal practitioners and, to a lesser extent government and business institutions. Some journals are also subscribed to by individuals. Our draft business plan places emphasis on the academic market, but also considers the legal practice market to be significant. While the nature of the market remains the same with the academic as the most significant, we believe that greater emphasis has to be placed on the legal practice market for success. This should not be at the expense of providing high quality academic journals with refereed articles. However, the strategy of providing material on current awareness should be of interest to the legal practice community. The market will continue to be international in nature with the emphasis on the UK and wider European markets.

Competition

Since the project proposal was developed, a significant number of additional electronic journals have come on-line, some of them in direct competition with JILT. While JILT continues to be the leading edge journal in its field, issues of global competition need to be considered. In addition, law journal publishers and other organisations are beginning to embark upon their own parallel publishing projects. This will be a significant factor in the survival of the Electronic Law Journals Project beyond the project period.

Financial needs at the end of the Project

The draft business plan emphasises that at the end of the three year project, the core activity can be carried out for significantly less than during the establishment phase. This assumption continues to be correct, but will depend on the extent of activity generated by the project both in terms of the publication of original journals and parallel publishing.

Financial Strategy

The draft business plan suggests a financial strategy based on two original journals with three possible scenarios: (See overleaf)

Scenario	Academic	Practitioner	Average	Break-even No. of subscriptions
A	£120	£300	£210	282
B	£200	£300	£150	246
C	£200	£350	£275	224

These assumptions still appear to be reasonable in terms of world-wide subscriptions. However, there is some recent evidence suggesting reluctance of Internet users in general to pay any subscriptions for journals. There is also

evidence that pay as you use strategies may not necessarily takeoff. Therefore these issues still need to be clarified in the course of the next year.

We also intend to change our strategy for the Electronic Law Journal Environment by providing for:

12. A subscription based JILT

13. Encouraging a number of other original journals with a graduated subscription policy.

14. Encouraging a substantial number of parallel publications.

15. Advertising and sponsorship income.

We believe that it is too early to set realistic subscription levels for these activities. However, our assumptions are that:

1. Our break-even figure should remain the same.

2. We should consider subscriptions for JILT and any additional journals as the main basis for funding, but the subscriptions per journal will depend on the number of journals we publish. However, any additional journals will have additional overhead editorial costs. These, however are unlikely to be very high in the nature of academic journal publishing.

3. We should encourage a substantial number of parallel publications based on providing user codes to subscribers to the paper version or providing for pay as you use. The parallel publication should be based mainly on a top-up to the original subscription rate e.g. of 10%. Our current investigations suggest a considerable interest in parallel publication among the editors, but a reluctance to commit or alternative publication plans on the part of publishers.

4. In addition to institutional subscriptions alternative forms of subscriptions on pay as you use basis or individual basis should be considered.

5. Advertising and subscription income should be considered.

It is quite possible that at the end of the three year period we may still remain short of full viability. This is likely to be partly due to new journals finding it difficult to obtain subscribers in an increasingly resource starved academic environment and partly to a cultural reluctance of Internet users to pay for WWW access. In the circumstances, it may be that continued but tapered level of funding will be required from an external funding body, such as the Electronic Libraries Programme until sustainability is secured.

[1] Subject to approval by the Steering Committee

APPENDIX G.5

1997 ANNUAL REPORT
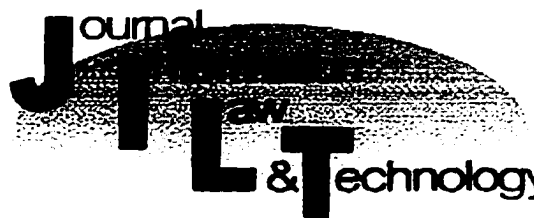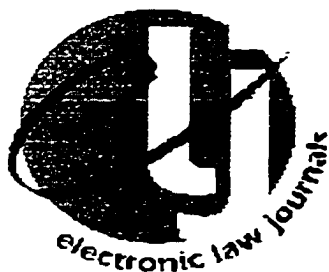
Annual Report

The Project's mission is to establish an electronic journal environment for law, so as to promote a culture for writing and reading electronic law journals.

Activities and Progress

The main objectives for the second year were to:

4. Continue to publish JILT and to develop it both academically and technically
5. To develop one new original journal and a number of parallel publications.
6. To continue to improve the technical environment for the journal.
7. Explore the future sustainability of the journals project

With the successful launch of an original electronic law journal (JILT) the objectives for the second year focussed on a maintenance and improvement strategy for the existing electronic journal and the development of a wider journals environment that would promote a discursive electronic culture within the academic community and thus contribute to the process of `cultural change' in journal reading, writing and publishing.

JILT

* JILT won the inaugural Charlesworth Group Award for Electronic Journals. The Award is aimed to recognise excellent overall design and innovation in online and parallel online journals.
* The journal has an increasing audience. Numbers of sessions have increased and the 'mix' has changed showing greater international access (see appendix C).
* JILT has made a significant contribution to the intellectual credibility of electronic journals . This is clearly demonstrated by the quality of refereed articles and the increasing number of unsolicited submissions being received.
* There have been significant improvements in the breadth of content, in particular with the development of case reports and commentaries. The latter is a vehicle for

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the publication of high quality pieces from prominent non-law academics but which are nevertheless not appropriate for publication as refereed articles.

* There have also been significant improvements in the quality of editing and refereeing as greater clarity has been obtained about standards.

* 'culture change' - improved communications between authors, referees and editors has been achieved with the whole process from submission to publication being entirely electronic. In particular, referees are enabled to enter into anonymous communication with the authors thus enabling better development of articles. While there is an improvement in the amount of discussion taking place in the journal, we have still not crossed the rubicon on this aspect of culture change.

New Original Journals

Progress has been made on the launch of two new original electronic law journals. 'Communications Regulation - New Patterns and Problems' will address Telecommunications Law, a dynamic area ideally suited to the electronic environment. It is in the early stages of development and will be `prototyped' as a Special Feature in the next issue of JILT. The scope of the new journal will be the international communications area focusing on telecommunications regulation and the information highway. A project plan has been established with the assistance of Ms Leslie Hitchens of Warwick.

The journal will attract an international audience of legal academics, legal practitioners and anyone interested in the technological and commercial convergence of telecommunications and broadcasting

Funding: An international publisher has shown strong interest in sponsorship and negotiations are taking place. Other sources of sponsorship include BT and AT&T research grants.

Good Governance & Globalisation Law Review (Planned)

This potential journal is in an early stage of planning. Interest in editing has been shown by members of the Law in Development Programme at Warwick. In addition, potential editors are being approached world wide.

Electronic Law Forum

The proposal for an electronic law forum emerged out of a steering group meeting. The idea is for the production of a forum which provides intelligent commentaries on current developments in specific areas of law by subject experts as well as providing brief notes on developments as they occur as well as the full text of relevant materials. Interest has already been shown in the development by a leading electronic publisher and it is proposed to develop the proposal further during the year.

Parallel Publishing

All law journal publishers were invited to consider the possibility of a variety of forms of parallel publishing within the ELJ environment. Discussions began with a number of journal editors and publishers. Initial indications were that a potential opportunity existed in this area for the Electronic Journal Project. However as the rapid rate of change in the electronic publishing market, and the intense competition between academic publishers continues to gain momentum we have made a decision to

withdraw from this area and to concentrate on our proven strengths of publishing original electronic journals.

Commercial publishers are investing heavily in developing a presence on the web. They have adopted a range of strategies including developing a promotional/customer service web facility, publishing contents or abstracts of journals, and providing 'text on screen' with restricted access to customers who subscribe to a paper copy. The Electronic Journals Project has developed experience and expertise in 'true' electronic publishing utilising the advantages of the electronic medium. We recognise that becoming involved with 'text on screen' will dilute the effort in establishing a 'culture change'

Technical Environment

Improvement continues in the technical environment. Our experiment with Frames during the first year has been consolidated to take into account the needs of both Frames users and those who do not have access to Frames. The ELJ environment automatically delivers the interface appropriate to the user.

Greater use is made of automation of mark-up procedures and checking of links as part of the publication process leading to significant speeding up of publication procedures.

The interface design has also been significantly improved in accordance with the suggestions of readers, with clearer design of the front pages of the journal and also the introduction of a full contents list and subject indices to assist with navigation. In general the use of Frames has significantly improved navigation.

The use of Webtrends software has also improved the audit trail.

Investigation has taken place on technical development of future pricing mechanisms. However, these are not as yet consolidated and we are reluctant to spend considerable sums on software without a clear indication that the software will produce an effective mechanism.

Future Sustainability

A major part of our time during this year has been spent on consideration of sustainability. This has involved revision of the original business plan and a consideration of a wide range of initiatives in collaboration with the steering group. The original project plan was based on a subscription strategy. However, during the first year of the project research has indicated that there is a significant reluctance within the market to pay for information from the internet. This charging sensitivity was also identified by other publishers some of which have adopted an interim strategy of providing 'free' access to journals where a subscription has been paid for a paper copy.

We believe that this climate against subscription will change in the next two years. In the meantime, we have adopted a strategy for development based on an initial emphasis on project funding and sponsorship supplemented by a slow development in subscription. Until now we are pleased with the interest shown in sponsoring of the project by traditional publishers, electronic publishers and legal organisations. We also intend to apply for funding under the EU's Framework V programme and other forms of project funding such as BT and ITT. These aspects are fully developed in the revised business plan.

Administrative Arrangements

The administrative arrangements for the project have been strengthened during the year by the establishment of a steering group and the involvement of Mark Gould of Bristol University on the editorial team for JILT. We are also considering the appointment of a News Editor with responsibility for the development of the growing news section of JILT.

Learning from the Process of Implementation

The second year of the project has seen improvements in the design of JILT, and the introduction of two new services, The UK Law Journals Listing and the Bibliographic CD-ROM Listing.

The changes in design in JILT, the flagship journal of the project, have been in response to the evolving changes in the capability of the web as well as feedback and suggestions for improvement from our readers. The results from the evaluation survey carried out have also been taken into account. A major change has been the introduction of frames to the environment and we believe that when implemented well this method offers improved navigation within the journal without the annoyance of having to click through lots of pages as was previously the case. We do still offer "chunked mark-up" for non-frames aware browsers but this is now offered at a reduced level than previously.

The full automation of marking up the journal has not been achieved although a number of automatic programs have been tested and used with varying degrees of success. We have learnt that well produced word processed documents take less time to clean up after conversion and are now using word templates in the production of the journal. Most authors are now following the style sheet which makes the mark-up of an article easier.

Comments from authors, readers and evaluators have also led to significant improvements in refereeing procedures. We have found that providing referees with a form and a set of instructions provides improved and consistent feedback. 'Stand-by' referees are also used in order to ensure timeliness. Finally, anonymous communications procedures between the referee and the author have been used to improve standards. We are impressed with the willingness of referees in using exclusively electronic media and by the subsequent improvements in speed of refereeing.

In introducing two new services, the maintenance of the web servers has significantly increased in workload. As more issues of JILT have come out so the maintenance of that resource also becomes a consideration. Authors themselves are increasingly citing resources on the Web which while a good thing, has added to the maintenance of links. The use of automated link checkers has become an increasingly valuable tool.

In trying to encourage parallel publishing of legal journals, we have observed that most of the large publishers have their own plans. We are actively negotiating with one smaller publisher at the present moment. We have spent a considerable amount of time in formulating proposals for parallel publishing as we have spent on trying to formulate our survival strategy.

We have also put in a number of bids to publish selected Conference Proceedings and while so far unsuccessful have gained some understanding of what conference organisers will be willing to pay for such a service.

Negotiations continue in the setting up of a new Telecommunications Journal. We have received a small number of enquiries regarding original journals publication within the ELJ environment. We are still following up these enquiries. We have learnt that there is a long gestation period between a declaration of interest and the launch of a new journal.

In the Book Reviews section of JILT we have made use of the electronic medium by including excerpts from the books themselves. We have found that it has been difficult to get publishers to pay for additional services such as order forms for the books appearing within the journal. For the three excerpts published so far a good deal of effort has been expended in obtaining them and converting them from paper form into electronic form.

The design of the subject pages has been modified to bring together a wider range of materials, both those appearing in JILT and those items that are hyperlinks. A number of users have suggested in feedback that we include useful links as listings within JILT. Rather than a list of links, we feel a more useful method is to implement the listings within the subject listings.

The ELJ project has maintained contact with several other eLib projects, namely Deliberations and Sociological Research Online. The links are useful but completely informal. We have found advice asked for helpful on a number of occasions.

Our main learning experience from this year has been that a great amount of effort needs to be expended to develop and explore strategies for future development and survival. Moreover, there is a need to keep such strategies under constant review because of the dynamic and competitive nature of the market. Nevertheless, the experience of exploration is in itself valuable.

Interim Evaluation Results

Introduction:

This initial evaluation report lays out the results of three surveys; one of JILT readers that was carried out using the JILT web site and via e-mail, one of Law Librarians in the UK that was carried out by means of a postal survey and finally the author questionnaire that was sent out authors of refereed articles. The aim of the questionnaires was twofold - elicit feedback from authors and readers, and if necessary act on it. Secondly promotion of JILT to librarians - extremely important as JILT does not have an on shelf presence. Reports of the two Focus Groups held in Newcastle and London in November and December of 1996 are also included.

Data Collection Methods:

Data was collected by various methods
- as an on-line form via the World Wide Web
- as a questionnaire distributed via e-mail (by automatic request)
- as a questionnaire on paper distributed to Librarians
- as an e-mail questionnaire to authors.

Summary Statistics:

Reader Survey
Web Responses: 23
E-mail Responses: 6
TOTAL: 29
Librarian Survey
Responses: 21 (from 89) Response Rate = 24%
Author Survey
Responses: 7 (from 22) Response Rate = 32%

Conclusions:

* JILT is perceived very positively by both authors and readers
* The journal is recognised as being very timely and a valuable academic resource of a variety of types of information
* More promotional activity needs to be undertaken to raise awareness
* The Internet is seen as a very effective method for international dissemination of published work
* There has been a significant increase in communication between readers and authors.
See appendix I for the Evaluation results

Future Development

Implementation of the previous year's development plan has assisted us a great deal in clarifying our goals for the future. The revised Project Plan enclosed with this report provides the main themes for our progress during the next year and the following five years. In principle, we have decided after market testing to concentrate on our strengths, which lie in the areas of innovative original publishing activities. Therefore during the next year, the main focus of the project will be on:
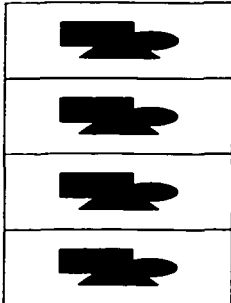
2. Continuing development of JILT as an internationally outstanding journal with especial emphasis on the development of the current awareness sections.
3. Consolidation of the new Journal of Communications Law.
4. Development of Global Law Journal and of the Electronic Law Forum.
5. Further refinement of the listings service and some parallel publishing as appropriate subject to low priority.
6. Further exploration of self-publishing.
7. Implementation of Project Plan for Sustainability.
Development over further five years is as envisaged in the Project Plan for Sustainability.
8. Action on Project Plan for sustainability.

INSTRUCTIONS TO AUTHORS

Information Systems Frontiers

A Journal of Research and Innovation

Submission of Manuscripts

Papers submitted for publication should be addressed to either:

R. Ramesh
Department of Information Systems
School of Management
State University of New York at Buffalo
Buffalo, New York, 14260-4000 USA

or

A. Raghar Rao
Department of Information Systems
School of Management
State University of New York at Buffalo
Buffalo, New York, 14260-4000 USA

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reference because manuscripts will not be returned. Abbreviations should be kept to a minimum and must be explained when they first appear; after the first use, an abbreviation may be used.

Title page

The title page of each manuscript should include only (1) article title; (2) authors names (including first and middle names and degrees); (3) name and address of the institutions(s) from which the work originated, plus information about grants (including city and state of all foundations, funds, and institutions); (4) name, title, address, telephone, telex, and fax numbers of person to whom proofs and reprint requests should be addressed; (5) any necessary footnotes to these items; (6) a running title not exceeding 45 letters and spaces.

Abstract Page

The page following the title page should include a brief abstract of 200–250 words describing the purpose, methods, results, and conclusions of the study.

Key words

Four to ten key words or terms must be provided for indexing. Include words already in the title.

Text

The text of the article should begin on a new page and have the following parts: introduction, methods, ethics, statistics, results, discussion, and acknowledgments (including sources of financial support).

References

For details, see *Journal of Risk and Uncertainty* 1999;18:80-81. Personal communications, manuscripts in preparation, and other unpublished data are not cited in the reference list but may be mentioned in the text in parentheses.

References are to be numbered and cited in the order in which they appear except for reviews. The reference section should be typed double-spaced at the end of the text, following the sample formats given below. All authors names must be provided for up to six individuals; when there are seven or more authors, list the first three and add et al. It is the responsibility of the author(s) to verify all references. For reviews the Vancouver system (sequential numbering of references) becomes clumsy so that the Harvard system (authors names and years) should be used. For details see the journal Drugs.

- *JOURNAL ARTICLE:* Bone J, Hey J, Sockling J. Are Groups More (or Less) Consistent Than Individuals?

Journal of Risk and Uncertainty 1999;18-63-81 (Journal titles abbreviated as in *Index Medicus*; omit issue number unless essential.)

- *BOOK:* MacDonald R, Stein JL. *Equilibrium Exchange Rates*. Boston: Kluwer Academic Publishers, 1999
- *CHAPTER IN A BOOK:* Opie LH, Mabin TA. Medical treatment of cardiovascular disease in the elderly. In: Messerli FH, ed. *Cardiovascular Disease in the Elderly*, 2nd ed. Boston: Martinus Nijhoff, 1988: 317–337. Chinn Menzie D. Productivity, Government Spending and the Real Exchange Rate: Evidence for OELD countries. In: MacDonald R and Stein JL, ed. *Equilibrium Exchange Rates*. Boston: Kluwer Academic, 1999:163-190

Figures and tables

Include a photocopy of each figure above the legend. Original figures must be submitted as unmounted, clear glossy prints with lettering large enough to be legible in the event of half-size reduction. Submit one glossy print 13 x 18cm (5 x 7in.) and two photocopies of each figure. If the photocopies are not adequate for evaluation, as may be the case for photomicrographs, submit three glossy prints. On the back of each figure, give the first authors name, the figure number, and indicate the top with an arrow. Do not write directly on the back of the figure; rather, write on a gummed label and affix it to the back of the figure. Do not use paper clips or staples; submit figures in an envelope backed by cardboard. Each figure should have a separate, explicit legend, typed double-spaced on a sheet separate from the text. Figure numbers should be arabic, corresponding to the order in which the figures are presented in the text. Identify all abbreviations appearing on the figure in alphabetical order at the end of each legend. Estimates for color work will be provided upon acceptance of the manuscript. All costs of printing color will be charged to the authors. Tables should be typed double-spaced, each on a separate sheet, with the title above and any notes below. Explain all abbreviations. Tables and table numbers should be arabic, corresponding to the order in which the tables are presented in the text. Do not give the same information in tables and figures. You must obtain permission to use all tables and figures that have already been published.

Proofs and Offprints

Proofs must be returned within 3 days of receipt; later return may cause a delay in publication of an article. Please check text, tables, legends, and references carefully. To expedite publication, page proofs, rather than galleys, will be sent to the author. Alterations other than the correction of printing errors will be

charged to the author(s). Order information for offprints will accompany authors proofs.

All authors submitting original research papers should include an assigned exclusive publication statement, as follows: I certify that none of the material in this manuscript has been published previously and none of this material is currently under consideration for publication elsewhere. This includes symposia, proceedings, transactions, books, articles published by invitation, and preliminary publications of any kind except an abstract of 400 words or less. (Authors Signature)

Submission Standards & Style Sheet

Standards

General Information Articles for this publication should normally be 3-8,000 words in length. Authors may submit paper copies but electronic copies are preferred either by regular mail or electronic mail.

Abstracts and Keywords

Please include an abstract of your article of roughly 250 words. All selected articles will appear with the abstract included.

A list of keywords should also be included.

Links to External Sources

The journal team will provide hypertext mark-up for articles. However, contributors may, if they wish, insert their own hypertext links including cross references to other materials on the World Wide Web using their URL (Uniform Resource Locator) addresses. These links should not be placed in footnotes rather within the body of the article in brackets after the words that are to be linked to them. All links should also appear in a Links section that should appear after the References section.

This Links section may be sub divided into Materials, Organisations and People.

Style

References

In order to keep footnotes to a minimum references to sources should where possible appear in the body of the article following social science conventions. Where an article/author is quoted directly e.g Smith and Jones (1996) argue ...., the year of publication alone should appear in parentheses. If an article/author is referenced indirectly e.g. Many sources indicate this is not true (Carter J; 1996, p5) the surname, year of publication and and the page reference if it relates to a specific part of the text should appear in parentheses. If there is more than one reference to work by the same author in the same year, the references should be distinguished by adding the suffix 'a', 'b', 'c' etc. to the year of publication e.g. (Smith, Y; 1995a, pp. 5-7) A full citation of all such references should appear in the bibliography according to the form below.

> *1. Books*
> Smith D (1988) The Information Society (London: Polity Press).
> Smith D (1987a) 'The information society and public policy' in Gregory, F (ed) Information technology: the public issues (Manchester: Manchester University Press).
> Smith D (1987b) Law and Information (London: Polity Press).
>
> *2. Journal Articles*
> Davies D (1995) 'Law and the Internet', Computer Law and Practice 110.
>
> *3. Conference Proceedings*
> Bruce T (1995) 'Legal Information, Open Models, and Current Practice', Montreal Conference on Crown Copyright in Cyberspace, May 1995, <http://www.droit.umontreal.ca/CRDP/Conferences/DAC/BRUCE/B RU CE.html.
>
> *4. Multiple Authors*
> Smith D and Blanc R (1988) The Information Society (London: Polity Press).
> Smith D, Blanc R and Floyd K (1995) The Information Society (London: Polity Press).
>
> *5. Cases and page numbers within cases*
> Lloyd's Bank p.l.c. v. Rosset [1988] 3 W.L.R. 1301 at 1303.
>
> *6. Statutes*
> Data Protection Act 1984, s.10.

APPENDIX H.1

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CEO, Verifone)
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APPENDIX H.2

ISF'S VISION STATEMENT

Information Systems Frontiers

A Journal of Research and Innovation

Editor-in-Chief:
Ram Ramesh
State University of New York at Buffalo, USA
H. Raghav Rao
State University of New York at Buffalo, USA

Aims & Scope

The interdisciplinary interfaces of Information Systems (IS) are fast emerging as defining areas of research and development in IS. These developments are largely due to the transformation of Information Technology (IT) towards networked worlds and its effects on global communications and economies. While these developments are shaping the way information is used in all forms of human enterprise, they are also setting the tone and pace of information systems of the future. The major advances in IT such as client/server systems, the Internet and the desktop/multimedia computing revolution, for example, have led to numerous important vistas of research and development with considerable practical impact and academic significance. While the industry seeks to develop high performance IS/IT solutions to a variety of contemporary information support needs, academia looks to extend the reach of IS technology into new application domains. *Information Systems Frontiers* (ISF) aims to provide a common forum of dissemination of frontline industrial developments of substantial academic value and pioneering academic research of significant practical impact.

Information Systems Frontiers (ISF) will focus on research and development at the IS/IT interfaces in the academia and industry. The interfaces include the base disciplines of computer science, telecommunications, operations research, economics and cognitive sciences, for instance. Emerging areas that *ISF* will concentrate on in the next few years include, but are not limited to: enterprise modeling and integration, emerging object/web technologies, information economics, IT integrated manufacturing, medical informatics,

digital libraries, mobile computing and electronic commerce. The publication highlights of *ISF* are:

- Focus
  - Provide a forum for both academicians and industry specialists to explore the multiple frontiers of the IS/IT field
  - Bring innovative research on all aspects of IS/IT interfaces from analytical, behavioral and technological perspectives
- Format
  - Published quarterly, with dedicated issues on a regular basis as well as a general issue per year
  - Internet support with abstracts, fast track reviews, discussion groups and a variety of other services
- Content
  - Theories and models of IS/IT systems and solutions
  - Pragmatic solutions to practical IS/IT problems
  - Computational, empirical and system developmental studies
  - Perspectives synthesizing recent developments in interface areas
  - State-of-the-art, state-of-the-market, state-of-the-practice surveys
  - Reviews of challenges, solutions and lessons learned in practice
- Management
  - An Editorial Advisory Group and an Editorial Board both including outstanding individuals from academia and industry
  - Eminent guest editors for the dedicated issues
  - Editors of websites managing and maintaining the internet services.

INSTRUCTIONS TO AUTHORS

Information Systems Frontiers

A Journal of Research and Innovation

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Figures and tables

Include a photocopy of each figure above the legend. Original figures must be submitted as unmounted, clear glossy prints with lettering large enough to be legible in the event of half-size reduction. Submit one glossy print 13 x 18cm (5 x 7in.) and two photocopies of each figure. If the photocopies are not adequate for evaluation, as may be the case for photomicrographs, submit three glossy prints. On the back of each figure, give the first authors name, the figure number, and indicate the top with an arrow. Do not write directly on the back of the figure; rather, write on a gummed label and affix it to the back of the figure. Do not use paper clips or staples; submit figures in an envelope backed by cardboard. Each figure should have a separate, explicit legend, typed double-spaced on a sheet separate from the text. Figure numbers should be arabic, corresponding to the order in which the figures are presented in the text. Identify all abbreviations appearing on the figure in alphabetical order at the end of each legend. Estimates for color work will be provided upon acceptance of the manuscript. All costs of printing color will be charged to the authors. Tables should be typed double-spaced, each on a separate sheet, with the title above and any notes below. Explain all abbreviations. Tables and table numbers should be arabic, corresponding to the order in which the tables are presented in the text. Do not give the same information in tables and figures. You must obtain permission to use all tables and figures that have already been published.

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All authors submitting original research papers should include an assigned exclusive publication statement, as follows: I certify that none of the material in this manuscript has been published previously and none of this material is currently under consideration for publication elsewhere. This includes symposia, proceedings, transactions, books, articles published by invitation, and preliminary publications of any kind except an abstract of 400 words or less. (Authors Signature)

APPENDIX I

CHECK-LIST FOR DATA COLLECTION

Item	Status
1. Contact Editor	
2. Editor fills out preliminary questions	
3. Survey journal's home page for the following items: • Use of media • Material • Mission statement • Charter • Editorial board • Style (look and feel) • Accessibility (ease of...) • Access (free, password....) • Reference • Organization of "issues"	
4. Request from editor the following items: • Acceptance letters • Review forms • Copyright forms • Any additional documentation unique to the journal	
5. Based on the above data, prepare a set of questions probing into the reasons for some of the practices	
6. Editor review/modify "review process" + the time an average review takes	
7. An interview with additional staff members regarding time and resources	
8. Identify and contact an author	
9. Initial electronic survey of the author	
10. Phone interview with the author	
11. Send a final draft to the editor for review and comments	

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APPENDIX J

GLOSSARY

AEP – Academic Electronic Publishing. This term refers to any academic work that is published electronically. The term is not limited to fully refereed articles. Work might include (but not limited) to tutorials, algorithms, case descriptions, book reviews and introductions to new technologies.

Archival Work (MISQ Discovery) - Archival articles are static. Once they are published they are stored on MISQ Discovery's server and cannot be modified. The archival article is used to maintain a permanent copy of the work.

Author-Pay-Charge – Journals charge authors to publish articles.

Backward Integration - E-journals are design to work with current technology. Once the technology is obsolete, all articles will have to be converted. For example, Internet-based e-journals using HTML, are designed to work with current browsers such as Netscape and Internet Explore. Once these browsers are outdated or cease to exist, these articles have to be converted or they will no longer be accessible. The same argument can be said about paper journals. The difference is that paper technology life cycle is much longer than the life cycle of digital technologies.

Chain of Citations – This term refers to the fact that old knowledge is based on new knowledge. Academic work is based on citation of previous work. The integrity of the

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citation chain is based on the fact that work cited remains intact. Significant changes require a new version (or new publication) of the work.

E-Journal – Electronic Journal. In this dissertations electronic journals refer to journals that use networking capabilities as their primary delivery medium, typically the Internet. These journals might use additional delivery media in conjunction with the Internet such as CD-ROM or paper editions.

Electronicity - This term refers to the extent that an e-journal uses the medium. For example an e-journal that is linear in structure, uses text, graphics and 2-D images and does not use 3-D images, video or audio is considered to have a low level of electronicity. On the other hand an e-journal that utilize hyperlinks, colors, 3-D images, audio and video is considered to have a high level of electronicity.

Gatekeepers - This term refers to the movers and the shakers of a discipline. These senior members of a discipline define its direction, norms and accepted paradigms. Journals tend to conform to these norms either because gatekeepers are on the editorial board or because without the endorsement of the gatekeepers the rating of the journal is in jeopardy. Thus, the gatekeepers indirectly influence the type of work that gets published in academic journals.

Highest Common Denominator – This refers to the different levels of technology available in the market. Users have various levels of technology. When choosing level of mode complexity, editors should consider the highest level that will be most common. One can not assume that all people have fast Internet connection and a 800 Mhz Pentium. At the same time it is safe to assume that most readers will not be using an old DOS based 286 PC.

In-between Case Analysis – Refers to multiple cases, case study methodology. An analysis is conducted to compare between cases.

Living Scholarship (MISQ Discovery) - Living scholarship resides at one or more authors' sites. The authors of the work may modify the work, adding or deleting information based on readers' comments, new ideas or new technological advances. Living scholarships are optional.

Lotka Law (as applied to academic publishing)- The law states that the distribution of published articles is of the form K/N^2 where N is the number of articles published in a lifetime by a specific author and K is the number of authors to publish N articles. Thus, for example, if K= 2000 and N=1 then $2000/1^2$ = 2000 is the number of authors to publish 1 article. For N=10, $2000/10^2$ =20, is reduced to 20 authors published 10 articles.

Means - Describe the way published work is delivered or distributed. Publications may be distributed physically or electronically, periodically or through open channel (push or pull distribution). Distribution means also vary by temporal and spatial limitations. Published work maybe distributed face-to-face (e.g. poetry reading, paper presentation) or asynchronously. The means of distribution is dependent on the medium used.

Mode – Mode is the set of symbols and language used to present the published material. Mode can be textual, visual or aural.

P-Journal – Paper journal. In this dissertations paper journals refer to journals that use paper as their primary delivery medium. These journals might have additional presence or use additional delivery media such as CD-ROM or Internet presence.

Pay-Per-View — A reader pays only for the articles or material he or she down load. Pay-per-view can be implemented on an individual basis or as an institutional subscription where the university pays a set fee for each downloaded article.

Priority Claims — Being the first to make a discovery, introduce a paradigm, a framework or a theory. This is more applicable in the hard sciences than in social sciences. However, priority claims have implications on the chain of citation (see definition above).

Publication Cycle Time — The lapse time from the inception of the article until it reaches its readership. The publication cycle time Includes the following six steps:

Step 1. Creation of a manuscript
Step 2. Submission
Step 3. Refereeing
Step 4. Editing
Step 5. Production
Step 6. Distribution

Scholarly Skywriting - Harnad (1996) suggested the concepts of "scholarly skywriting" and an open, interactive refereeing process as ways to restore the communication function of academic journals. In scholarly skywriting, a paper is, in effect, never formally finished but continually reviewed by all its readers. Authors are able to change a manuscript at any time based on readers' comments. Thus, the work becomes a living entity rather than a static product.

Time Lags — Time lags refers to the time from submission-to-print of an academic article. This time lag includes the following:

1. The time it takes to review an article
2. The time it takes to revise an article
3. Accepted articles backlogs
4. The time it takes to compile an issue
5. Printing and distribution time

Within Case Analysis - Refers to multiple cases, case study methodology. An analysis is conducted to examine the details of each case.

REFERENCES

Anonymous (1995). "New Pricing and Product Enhancements for IEEE/INSPECT's Electronics Letters Online." Information Today 12(4): 19.

Anonymous (1997). "ADONIS Electronic Journal Subscription Service Goes Live." Information Today 14(5): 28.

Berge, Z. and M. Collins (1996). "IPCT Journal Readership Survey." Journal of the American Society for Information Science 47(9): 701-710.

Campanario, J. M. (1996). "Have Referees Rejected Some of the Most-Cited Articles of All Times." Journal of the American Society for Information Science 47(4): 302-310.

Coats, J., J. Mahaffie, et al. (1997). 2025. Greensboro, NC, Oakhill Press.

Collins, M. and Z. Berge (1994). "IPCT Journal: A Case Study of an Electronic Journal on the Internet." Journal of the American Society for Information Science 45(10): 771-776.

Courtney, J. F., J. Porra, et al. (1997). Incubating Foundation of Information Systems (FIS) - Issues in Creating an Electronic Journal. Americas Conference on Information Systems, Indianapolis.

Cronin, B. and K. Overfelt (1995). "E-Journals and Tenure." Journal of the American Society for Information Science 46(9): 700-703.

Cummings, L. L. and P. Frost, Eds. (1995). Publishing in the Organizational Science. Foundations for Organizational Science. Thousands Oaks, Sage Publishing.

Drott, C. (1995). "Reexamining the Role of Conference Papers in Scholarly Communication." Journal of the American Society for Information Science 46(4): 299-305.

Eisenhart, D. (1994). Publishing in the Information Age: A New Management Framework for the Digital Era. Westport, Quorum Books.

Eisenhardt, K.(1989). Building Theories from Case Study Research." Academy of Management Review 14(4): 532-550

Fisher, J. (1996). Traditional Publishers and Electronic Journals. Scholarly Publishing: The Electronic Frontier. R. Peek and G. Newby. Cambridge, The MIT Press: 231-241.

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Freeman, L. (1996). The University Press in the Electronic Future. <u>Scholarly Publishing: The Electronic Frontier</u>. R. Peek and G. Newby. Cambridge, The MIT Press: 147-163.

Frost, P. and R. Taylor (1995). Partisan Perspective: A Multiple Level Interpretation of the Manuscript Review Process in Social Science Journals. <u>Publishing in the Organizational Sciences</u>. L. L. Cummings and P. Frost. Thousands Oaks, Sage Publishing. **1:** 13-43.

Fuchs, I. (1996). Networked Information is not Free. <u>Scholarly Publishing: The Electronic Frontier</u>. R. Peek and G. Newby. Cambridge, The MIT Press: 165-180.

Gold, J. (1994). "An Electronic Publishing Model for Academic Publishers." <u>Journal of the American Society for Information Science</u> **45**(10): 760-764.

Guedon, J.-C. (1996). The Seminar, the Encyclopedia, and the Eco-Museum as Possible Future Forms of Electronic Publishing. <u>Scholarly Publishing: The Electronic Frontier</u>. R. Peek and G. Newby. Cambridge, The MIT Press: 71-89.

Harnad, S. (1996). Implementing Peer Review on the Net: Scientific Quality Control in Scholarly Electronic Journals. <u>Scholarly Publishing: The Electronic Frontier</u>. R. Peek and G. Newby. Cambridge, The MIT Press: 103-118.

Harrison, T. (1996). "Faxon's 1997 Preliminary Subscription Price Projection". <u>Newsletter On Serial Pricing Issues.</u> **153**(2). http://sunsite.unc.edu/reference/prices/prices.html

Harter, S. (1998). "Scholarly Communication and Electronic Journals: An Impact Study." <u>Journal of the American Society for Information Science</u> **49**(6): 507-516.

Hitchcock, S., L. Carr, et al. (1996). A Survey of STM online Journals 1990-1995: The Calm Before the Storm. <u>Directory of Electronic Journals, Newsletters and Academic Discussion Lists</u>. Washington DC, Association of Research Libraries. Office of Scientific and Academic Publishing. **1:** 7-28.

Holsapple, C. and W. Luo (1995). "Institutional Impact On Decision Support System Research." <u>DATA BASE advances</u> **26**(4): 13-24.

Houghton, B. (1975). <u>Scientific Periodical: Their Historical Development, Characteristics and Control</u>. Hamden CT, Linnet Books.

Hovav, A. and Gray, P. (1997). <u>Academic Electronic Publishing: Scenario for the year 2007</u>. Americas Conference on Information Systems, Indianapolis.

Hovav, A. and Gray, P. (1998). <u>Electronic Publishing: A Framework</u>. Americas Conference on Information Systems, Baltimore, Association for Information Systems.

Ives, B. and Jarvenpaa S. L. (1996). Will the Internet Revolutionize Business Education and Research? <u>Sloan Management Review,</u> 37, 3 (spring 1996) 33-41

Jacobson, T. L. (1994). "The Electronic Publishing Revolution is Not Global." Journal of American Society for Information Science 45(10): 745-752.

Kahin, B. (1996). Scholarly Communications in the Networked Environment: Issues of Principle, Policy, and Practice. Scholarly Publishing: The Electronic Frontier. R. Peek and G. Newby. Cambridge, The MIT Press: 277-298.

Kirstein, P. and G. Montasser-Kohsari (1996). "The C-ODA Project: Online Access to Electronic Journals." Communications of ACM 39(6): 87-99.

Kling, R. and L. Covi (1995). "Electronic Journals and Legitimate Media in the System of Scholarly Communications." The Information Society 11(4): 261-271.

Koenig, M. and T. Harrel (1995). "Lotka's Law, Price Urn, and Electronic Publishing." Journal of the American Society for Information Science 46(5): 386-388.

Lesk, M. (1998). "How Can We get High-quality Electronic Journals?" IEEE Intelligent Systems 13(1): 12-13.

Libraries. (1991). Directory of Electronic Journals, Newsletters and Academic Discussion Lists. Washington D.C., Association of Research Libraries.

Libraries. (1996). Directory of Electronic Journals, Newsletters and Academic Discussion Lists. Washington D.C., Association of Research Libraries.

Manoff, M. (1996). The Politics of Electronic Collection Development. Scholarly Publishing: The Electronic Frontier. R. Peek and G. Newby. Cambridge, The MIT Press: 215-229.

Maurer, H. and K. Schmaranz (1994). "J.UCS - The Next generation in Electronic Publishing." Computer Networks & ISDN Systems 26(2,3): 63-69.

McEldowney, P. (1995). Scholarly Electronic Journals, Trends and Academic Attitude: A research Proposal. Department of Library and Information Studies. Greensboro, University of North Carolina: 18.

Nord, W. (1995). Looking at Ourselves as We Look at Others: An Exploration of the Publication System for Organizational Research. Publishing in Organizational Science. L. Cummings and P. Frost. Thousands Oaks, Sage Publishing Inc. 1: 64-78.

Odlyzko, A. (1996). "On the Road to Electronic Publishing." Euromath Bull 2(1): 49-60.

Odlyzko, A. (1997). "The Economics of Electronic Journals." First Monday 2(8).

Okerson, A. (1991). "Back to Academia? The Case for American Universities to Publish their own Research." Logos 2: 106-112.

Okerson, A. (1996). University Libraries and Scholarly Communications. Scholarly Publishing: The Electronic Frontier. R. Peek and G. Newby. Cambridge, The MIT Press: 181-199.

Peek, R. (1996). Scholarly Publishing, Facing the New Frontier. Scholarly Publishing: The Electronic Frontier. R. Peek and G. Newby. Cambridge, The MIT Press. **1**: 3-15.

Peek, R. (1996a). "Electronic Publishing Grows Up." Journal of the American Society for Information Science **47**(9): 665-668.

Peek, R. (1997). Where are Electronic Journals Going? Information Today. **14**: 44-46.

Peek, R. and G. Newby (1996b). Scholarly Publishing: The Electronic Frontier. Cambridge, The MIT Press.

Regier, W. (1997). Economics of Electronic Publishing: Cost Issues. Scholarly Communications and Technology, Emroy University.

Ringland, Gill (1998). Scenario Planning: Managing for the Future. Chechister, UK. John Wiley & Sons.

Rowland, F., C. McKnight, et al. (1996). "ELVYN: The Delivery of an Electronic Version of a Journal from the Publisher to Libraries." Journal of the American Society for Information Science **47**(9): 690-700.

Schaffner, A. C. (1994). "The Future of Scientific Journals: Lesson from the Past." Information Technologies & Libraries **13**(4): 239-247.

Schauder, D. (1994). "Electronic Publishing of Professional Articles: Attitudes of Academic and Implications for the Scholarly Communication Industry." Journal of the American Society for Information Science **45**(2): 73-100.

Soh, C. and L. Markus (1995). "How IT Creates Business Value: A Process Theory Synthesis." International Conferences on Information Systems.

Staw, B. (1995). Repairs on the Road to Relevance and Rigor: Some Unexplored Issues in Publishing Organizational Research. Publishing in the Organizational Sciences. L. L. Cummings and P. Frost. Thousands Oaks, Sage Publishing Inc. **1**: 85-97.

Turoff, M. (1978). "The EIES Experience: Electronic Information Exchange System." Bulletin of the American Society for Information Science **4**(5): 9-10.

Turoff, M. and R. Hiltz (1982). "The Electronic Journal: A Progress Report." Journal of the American Society for Information Science **33**: 195-202.

Weibel, S., E. Miller, et al. (1995). "An Architecture for Scholarly Publishing on the World Wide Web." Computer Networks and ISDN Systems **28**(1,2): 239-245.

Wellman, M. and S. Milton (1998). "JAIR: an Electronic Journal by and for the AI research Community." IEEE Intelligent Systems **13**(1): 7-9.

Willcocks, L., Dube, L., Pare, G. and Robey, D. "Pointers In Doing Writing Up Case Research". Proceedings of the International Conference on Information Systems, December 15-17, 1997, pp. 531.

Yin, R. K.(1984) Case Study Research Design and Methods, Sage Publications - Applied Social Research Methods Series, Thousand Oaks, CA.

Yin, R. K.(1993) Applications of Case Study Research, Sage Publications - Applied Social Research Methods Series, Thousand Oaks, CA.

Yin, R. K.(1994) Case Study Research, Sage Publications - Applied Social Research Methods Series, Thousand Oaks, CA.

Zmud, B. (1997). "Editor's comments - Reducing the Cycle Time of MIS Quarterly Review Process." MIS Quarterly 21(3).