

## Using research literature

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All projects will need to contain some references to the existing literature. If a project is very practical or technical – for example largely analysis, design or programming – there is still a need to explore relevant literature and to reference sources that are used to get ideas or that provide the basis for a design methodology. If a project is more descriptive or analytical, if it relates to how things happen in the world and how people feel or think about them, it will certainly need to draw on many sources of information and ideas, and hence to include more references. Usually it is appropriate to include a literature review section early in a project report so as to provide a baseline of understanding of other work in the topic area and to identify how this particular study fits in.

### Using libraries and other information resources

In the first edition of this book we could confidently write, 'The first place to start a search for literature on any given topic is in an appropriate library.' Today this position is not so easy to maintain if we just mean to enter into a library building; for many people the first place to go to locate information is

to the Internet and to use a search engine such as Google ([www.google.com](http://www.google.com)). We have more to say about using the Internet below, but for the moment we want to emphasise that libraries and the library resources they provide are still of utmost importance and in the end are far easier to navigate and offer more to somebody undertaking a research project than the wild anarchic world of the Internet at large. Nevertheless, when you do 'go' to a library that probably does not mean walking along the shelves and scanning the titles of books – interesting as that may be. It may not even mean pushing open the doors and entering the specific building where books are held. The holdings of most academic libraries of any size are now catalogued using computers and the primary means of locating material will be through an interactive search that you can usually do from anywhere in the world with access to a networked computer. Still, do remember, if the topic is likely to have relevant material from before the early 1990s, it is worthwhile checking how far back the comprehensive computerization of the catalogue you are using has gone, since many libraries still retain the earlier, card-based system for older material.

Even if you are working in a physical library you may find in the early stages of a project that the 'scanning the shelves method' is particularly unhelpful in the area of information systems since the books that represent the subject are highly unlikely to be shelved or classified together. Although a student of say, statistics, can reasonably expect to find the bulk of materials co-located, the student of information systems certainly should not, and titles may be spread around under the broad headings of computers, information technology, management, sociology, industrial relations and so on. You will soon see why using a computerized catalogue is essential.

When using a computerized catalogue, there are a number of ways to proceed. Most catalogues allow searches by some mix of author, title or phrases in the title, cataloguing classification (Library of Congress or Dewey – the class marks used to organize books on the shelves), date of publication and keywords. Such catalogues are usually restricted to books, official reports and perhaps the main title of journals (but not the individual articles within a journal). On the other hand, you may be lucky and work in a library that has the most up-to-date systems which can provide search capabilities that span books, reports and journal articles.

The obvious starting point for a search may be to use keywords or phrases, for example 'group decision aid systems'. This may reveal a huge number of titles, or it may reveal none. If the number is huge, then some refinement of the search may be called for; perhaps titles published since 1998. If the result is no titles or very few titles, then perhaps the keywords used need to be refined. In order to do this it is a good idea to inspect the catalogue record of a few books that you do know are relevant and to see what keywords are used to describe them. This makes particular sense when you realize that often the

keywording is done within a restricted controlled vocabulary, and your search term of 'group decision aid systems' may not be a part of this vocabulary whereas 'group decision support' may be.

As you search it is a good idea to note down the classification numbers for the materials located. Of course, this is needed to locate the books on the shelf, but more interestingly, it can help to provide an interdisciplinary map of the area of study – perhaps books classified as management, industrial relations, computer science, economics and psychology may turn up as a search on 'group decision support' progresses.

An online catalogue of current holdings is not the only resource that you might expect to find in a library. There will be many other online information resources, including comprehensive general digital library resources that cover both books and journal literature – for example *Ebsco Premier*, *Science Direct* or *ABI Global*, as well as commercial online resources from traditional publishers and specialist bibliographies for particular topics. You may also have access online to a citation index such as *ISI Web of Knowledge* which, given a particular author or article, allows you to find out *other* publications that have cited it. This can be a very powerful way of following up a topic as it is debated in the academic literature.

Such online resources can be particularly useful to track down all the published works of a known authority in a particular field and, depending on the subscriptions a particular library has, may allow you to directly download and print the material. For example *Ebsco Premier*, one of the market leaders, will allow you access to articles from many journals and magazines including *Harvard Business Review* and most of the leading information systems journals listed below. A useful article by Schwartz and Russo (2004) published in the *Communications of the ACM* gives a considered analysis of the availability of 50 top information systems journals in a number of commercially available databases. However, the world of online publishing is changing rapidly and new business models are being tried out all the time by established publishers and newcomers to the market (perhaps the opportunity for a project?), so any information given here may change over time. It is certainly a good idea, at the start of your project work, to devote some time to exploring just what is available from your institution's library, and learning how to make the best use of it.

## Journals and Conferences

When looking for information for a project, you may initially be attracted to books. However, in many cases (and this will depend upon the nature of a project), books are either too elementary, too old or else give a much too

general treatment of a topic. You will find that articles in academic journals are often preferable; they are typically much more focused and concise, as well as being up-to-date. Academic journals are the main medium for the dissemination of the results of academic research so if you want to be up-to-date that is where you need to look.

There are a growing number of journals devoted to information systems, and it is very hard to set down a definitive list. Schwartz and Russo (2004) give a ranked list of the top 50 (based on work by Mylonopoulos and Theoharakis (2001)), but this is a listing rather biased towards journals from the United States. Among the most relevant, well respected and widely cited journals with a broad coverage are the following (note their rankings by Mylonopoulos and Theoharakis when available are given in brackets):

- *Communications of the ACM* (2)
- *European Journal of Information Systems* (11)
- *Information and Management* (10)
- *Information Systems Journal* (16)
- *Information Systems Research* (3)
- *Information Technology and People* (27)
- *Journal of Information Technology* (-)
- *Journal of Strategic Information Systems* (20)
- *MIS Quarterly* (1)
- *The Information Society* (36)

The *Communications of the ACM* (CACM) is strictly speaking a magazine, but it does contain useful summary and survey articles that present brief accounts of contemporary research. The American Association for Computing Machinery (ACM [www.acm.org](http://www.acm.org)), its publishers, also publish a large number of more specialized journals in the field of computer science and information systems, for example *ACM Transactions on Information Systems*, and *Data Base*, the journal of their special interest group on business data processing. Similarly the American Institute for Electrical and Electronic Engineers (IEEE) Computer Society ([www.computer.org](http://www.computer.org)) publish a range of journals and magazines. Their magazine format publications, such as *IEEE Computer*, *IEEE Software*, *IEEE Micro* and *IEEE Expert* are often useful starting points for research, with short and accessible articles summarizing current developments in their respective fields. Both the ACM and the IEEE make all their publications available online at a very modest cost, either as an institutional subscription or to individual members. Student membership of these organisations may be well worthwhile just for this service, and also brings other benefits. The Association for Information Systems ([www.aisnet.org](http://www.aisnet.org)) also has modest student membership rates and publish two online journals, the

*Communications of the AIS* and the *Journal of the AIS*. These two are only available online, with no paper versions produced.

*ACM Computing Surveys* is a publication of the ACM that contains just review articles that summarize and structure the existing state of the art in various fields of computing. Not all issues contain papers on mainstream information systems topics; some are very much concerned with computer science, but from time to time there are relevant papers. As just two examples, the December 2001 edition contains a 47 page paper by Ivory and Hearst entitled, 'The State of the Art in Automating Usability Evaluation of User Interfaces', a paper that has over 133 references to other material (Ivory and Hearst, 2001) and the March 2003 edition contains a 28 page article by Dedrick, Gurbaxani and Kraemer entitled 'Information Technology and Economic Performance: A Critical Review of the Empirical Evidence' which contains 84 references to other works (Dedrick, Gurbaxani and Kraemer, 2003). Many other journals also carry survey articles from time to time. For example, *MIS Quarterly* in 2001 contained a comprehensive survey of knowledge management by Alavi and Leidner (2001) and *Accounting, Management and Information Technology* published a useful review titled 'Information Technology and Organisational Learning' (Robey, Boudreau and Rose, 2000). It is very worth while to search for such review articles early on in your research because they can provide a rapid route into the subject and usually offer many signpost to other relevant works.

In addition, and reflecting the multi-disciplinary nature of information systems, management-oriented articles often appear in management journals such as the *Harvard Business Review* and the *Sloan Management Review*. It is also probably the case that your project topic should lead you to more specific and narrowly focused journals that will contain relevant material. For example, if your project is concerned with man-machine interface aspects, then the *International Journal of Human-Computer Studies*, *Behaviour and Information Technology*, or *Interacting with Computers* might be relevant. In the area of software engineering you may find *Software Practice and Experience* and the *Software Engineering Journal* helpful. Areas such as e-commerce and e-government have also given rise to their own journals, for example, *EM-Electronic Markets*, or *International Journal of E-Commerce*. You can be quite certain, what ever your project area, that there will be some specialised journal out there, and you need to take some time to try to track it down.

Academic debate does not only take place within published journals. It is also very much alive within the numerous conferences held around the world. Some are very large with over 1000 people attending, and almost all publish a conference proceeding containing the various papers that are presented. These proceedings are usually available electronically from one or other academic body, for example the IEEE, ACM or AIS. Among the most prominent

and largest general conferences in the field of information systems are:

- International Conference on Information Systems (ICIS)
- European Conference on Information Systems (ECIS)
- Americas Conference on Information Systems (AMCIS)
- Pacific Conference on Information Systems (PACIS)
- Hawaii International Conference on Systems Science (HICSS)

It is a real advantage of working in the field of information systems and studies of technology that most of the literature you will seek out is quite recent, and most recent material, including all the journals and conferences cited above, are available online. Your library may have paper copies on the shelf, but they are more likely to have electronic access. This means that you can access material directly, and print it out without worrying about whether it is actually on the shelf or being used by another person. You will certainly need to work a bit to gain the information on what is available through your library, and how to gain access to it, perhaps needing special passwords but in the longer run acquiring and practicing such skills will serve you well.

## The Internet and ISWorld Net

Apart from formal academic journals the Internet now provides a huge (some would say infinite) pool of information, propaganda, gossip and exhibitionism. Finding things there, however, is not easy, or at least it is not easy to know exactly what you have found. For example, typing 'ERP implementation' – a good potential topic for a project – into the ACM portal I get over 200 references, but I can be fairly sure that most of them are potentially useful. They come from the publications of a reputable scientific society, they have been peer reviewed for the most part by other experts and I am fairly confident that they are not (overtly) selling me anything. Each article will have a brief abstract that I can review and they will all be catalogued using key word. If I type the same phrase into Google I certainly get well over 200 links, but most of them are of dubious quality, and many (most) are trying to sell me something. When we did this exercise preparing this book we found on the first page just one possibly useful link, to *CIO Magazine* ([www.cio.com](http://www.cio.com)), with a joke – just about good enough to pass it on here – but probably not the basis for a research project (See Box 6.1).

We then suggest that, for a researcher, Google and other general Internet search engines are useful tools, they do allow you to find a *particular* thing if you know it is out there, but they are of far less help in collecting together materials of known quality. At the start of your project you may feel that

**BOX 6.1****ERP implementation in ten Easy Steps**

1. Ask the board of directors for an arbitrary but large sum of money. (Suggestion: \$300 million.)
2. Give half the money to consultants. Ask them to select an appropriate ERP package for your company. Consultants will audit your business processes for six months and then select SAP, which they happen to resell.
3. Form cross-functional implementation teams. Hold meetings.
4. Reengineer all your business processes to match the software's model.
5. Give the other half of the money to consultants.
6. Install the software.
7. Train end users repeatedly.
8. Cross your fingers.
9. Turn on the software.
10. If you're still in business, immediately return to Step one because its time for an upgrade.

*Source: From CIO magazine, 1 April 2001.*

Google is your best friend, but beware. You will certainly have to exercise a lot of critical judgement as you wade through the material you find, and you probably would be better off starting your research with more formal and structured resources.

For this reason we have emphasised other possible Internet and online resources that you may want to use, including library catalogues, digital library resources and online journals, the sites of major publishers of academic work, such as ACM or IEEE. There is another valuable site for IS researchers at ISWorld Net ([www.isworld.org](http://www.isworld.org)) ISWorld Net is an activity of the Association of Information Systems (AIS). It is a collaborative effort to support the creation and dissemination of knowledge on information systems and is managed and run by an international group of academics and practitioners. Their mission is stated as follows on their web site:

We will provide information management scholars and practitioners with a single entry point to resources related to information systems technology and promote the development of an international information infrastructure that will dramatically improve the world's ability to use information systems for creating, disseminating, and applying knowledge.

Among the divisions within ISWorld Net are sections devoted to research and scholarship, teaching and learning, professional activities and country specific pages. These latter may be very useful for students studying overseas and who want to keep in touch with information systems within their own, perhaps very different, home context. The research and scholarship section is a good source of information on many methodological issues and contains various groups of resources to support researchers in different areas including detailed bibliographies and summary materials.

ISWorld Net also provides information about electronic versions of journals and many other publications in information systems. This is also a place to find a listing of Information Systems Departments and Research Centres around the world, many of which publish online research working papers – one good way to get hold of up-to-date research material.

### Other sources

Other publications, including newspapers and business publications can also provide a useful source of research information. Publications such as *The Financial Times*, *The Economist*, *The Wall Street Journal*, *The Far East Economic Review* or *Business Week* all contain regular material on information systems issues, as do the myriad of computer industry magazines. It is important, however, to judge the quality and status of such publications, and make certain that you are not just quoting second-hand press releases or vendors' propaganda. With on-line services it is relatively easy to locate articles in the press, and often it is possible to 'down-load' the text directly. For example, if your project demands an analysis of the history of IBM in the past decade, your raw material, in the form of *Wall Street Journal* stories over the period, can be available in seconds. Your job is then to read through the half a million or so words that this may represent! So, the time saving in locating material may be offset by the time to filter and assimilate it.

Finally we should note that Internet sources of all kinds pose a problem in providing good citations. When using the Internet we need to understand that the information we find and use may be there today, but be gone (or revised) tomorrow. Nonetheless, it is good practice to give the URL for any information that is used, just as you would provide a full citation for a book or journal article. The convention is to provide the date of access as well as the date of publication. Thus the extract from *CIO Magazine* given above would have a full citation as follows:

Slater, D (2001) "ERP Implementation in 10 Easy Steps", *CIO Magazine*. April 1<sup>st</sup>. Available at [http://www.cio.com/archive/040101/tl\\_erp.html](http://www.cio.com/archive/040101/tl_erp.html). Last accessed 13 Jan 2005



## Using and citing references

With the aid of a good library and on-line searching any researcher should be able to rapidly develop a substantial list of references to source material of one kind or another. A sensible researcher takes great care to manage this information; the critical issue is to capture the information once and once only. If this is not done, then days can be wasted in the final phases of a project in confirming or completing half-noted references. When you read a useful book or journal article, it is essential to make brief notes *at the time*. These should include the ideas that you intend to use, plus the bibliographic (catalogue) details that you will need to include in the references section at the end of the project. A handy way of keeping this information is through the use of some form of note cards, with the bibliographic details on one side and the content aspects on the other. Even if you use a bibliographic software package to maintain this data, you will probably need to keep some written notes. Indeed the computer has as yet provided no really satisfactory substitute for note cards for use in structuring ideas and organizing streams of thought prior to writing. Another advantage of using note cards is that they can be prepared and worked with in the library and then sorted into whatever order you require for later processing.

In Chapter 8 more detail is given about how to give citations in the text and write full bibliographic references, but suffice it to say that you must record full information on authors (including initials), titles, journal titles, publishers, year of publication, volume, issue and page numbers. Earlier we presented a citation to a magazine with an online link, the following two citations, one for a book and one for a journal article show the basic of what is needed for most material you will use.

Avgerou, C (2000) "Information systems: What sort of science is it?" *Omega: International Journal of Management Science*, Vol. 28, pp 567–579.

Bijker, W E (1995) *Of Bicycles, Bakelite, and Bulbs: Towards a Theory of Sociotechnical Change* Cambridge, Mass: MIT Press.

All other things being equal, the number of references is generally viewed positively. If you take ideas or phrases from a book or journal article, you must reference it. You certainly should not imagine that because you have a large number of references the examiners will conclude that you have not contributed anything yourself. In some cases, you may be making a contribution just by collecting the references together and summarizing what has been published in a given field – as is done in the survey articles discussed above.

Poor projects with a poor use of references tend to exhibit the following problems:

- There are no references, or just a few references to standard textbooks used in first year undergraduate courses. Given the increasing number of academic journals available online, a dearth of local library facilities is no longer a satisfactory excuse for the exclusive use of standard textbooks.
- There are a lot of references but they are all old and/or obscure. This suggests strongly to the examiners that these references have been merely copied from another article and that the student has not actually read the articles. There is no substitute for honesty and hard work! If you have not read a work, then think very hard before you put it in the references. There may be some legitimate reasons to do this – discussed below as secondary references – not many.
- The references in the text do not balance with the list at the back of the project. This again suggests, at worst, an element of plagiarism or, at best, a failure to recognise the importance of references.
- URLs swamp traditional sources. As we have noted above, most websites are commercial and are aimed at selling products. They are inherently biased and many are largely propaganda. There are some good sites that contain unbiased useful scientific information and these are worth citing, but you must give all web-based sources your own 'credibility check', including those of other universities and research centres.

## Plagiarism

You search literature and read around your subject to gain information and ideas. You do not do it so as to find chunks of material that you can copy out into your project report. If you do copy out sections from a published work without clearly referencing it, you are guilty of plagiarism, which should be grounds for failing a course.

Plagiarism is to take the work of another person and use it as if it were one's own in such a way as to mislead the reader. Whole pieces of work can be plagiarised (for example, if a student put his or her name on another student's essay), or part pieces, where chapters or extracts may be lifted from other source, including the Internet, without acknowledgement

This definition is extracted from the University of Leicester statement on plagiarism included in student handbooks and the source is from the JISC

web site devoted to plagiarism:

[online.northumbria.ac.uk/faculties/art/information\\_studies/Imri/Jiscpas/site/jiscpas.asp](http://online.northumbria.ac.uk/faculties/art/information_studies/Imri/Jiscpas/site/jiscpas.asp)

You may believe that such cheating is impossible to detect but examiners are surprisingly quick to detect changes in writing style, impossibly sophisticated or detailed arguments, or the use of unusual terminology. Examiners also have various online searching tools, from Google onward to check up on suspicious material. It is now quite common for universities to use specialised plagiarism detection sites as a standard part of assessment. One commercial site is [www.turnitin.com](http://www.turnitin.com), whereas in the UK the universities collectively have developed their own site and a detection service. You can visit this site at the URL given above, but given the length of the URL it may be better to search Google under 'JISC Plagiarism' – an example of *good* use of Google to find something you know exists. The site contains plenty of useful information for students, including information on how to avoid accusations of plagiarism and how to write within the conventions of academic study.

The message must be: **don't cheat, don't copy, do give appropriate citations and back them up with full references.**

As well as crediting the original author and signposting the development of your own ideas, citations and references are a way to provide supporting evidence for your own arguments or assumptions. Rather than assuming that it is common knowledge that, say, senior managers are worried about the financial returns from IT investments, a good supporting reference will add weight and authority to such a statement. For this reason, amongst others, it is essential to refer to the literature that you use at appropriate points in the text, and provide a full list of references at the end. This is far better than producing a lengthy unstructured bibliography disconnected from the text itself. It may be the case though that a separate bibliography or further reading section can be a valid part of a report, and serve to inform readers of additional useful works in the area or more general works consulted. In any event, references must be given in the appropriate format and the section on references in Chapter 9 gives further details on how references and citations should be written.

There is a particular problem when providing secondary references, that is when author A, whom you have read, cites author B, whom you have not. It may be allowable to cite such a reference, but it should be made plain that you have not read B's work, but have seen mention of it. For example, 'Avgerou and Cornford (1993), drawing on the work of Ackoff (1967), suggest that management information systems may mis-inform'.

A good use of references shows the examiners that you are familiar with the area that you are investigating. However, there is a danger of overkill; do not

insert references solely for the sake of it. The inclusion of excessive references can make a work difficult to read and tends to break up the flow of ideas. In other words, up to a certain limit, you will be gaining marks for providing references; beyond that limit, you may find that you will begin to lose marks.

## The literature review

A significant part of many projects will be a review of the literature in the area you study. You have to do this because otherwise you will not know what other people have done or said about your topic and be unable to use their insights and contributions. In research, to paraphrase the mathematician Isaac Newton, we see further when we stand on the shoulders of giants.

A review should consist of more than just a lengthy list of references or a sequence of précis of a random selection of papers. A good review is built up from a careful process of selecting and reading material, and analysing it for distinctive content. Webster and Watson (2002) provide a useful overview of one approach to preparing an literature review, based on a simple matrix of authors down one side, and key concepts or themes along the top. Of course the themes may shift a bit as you work, but in this way you can easily add more materials (more articles or books), and keep track of the developing picture. Table 6.1 below gives a simple example for some hypothetical new technology for business organizations.

By reading around a particular topic area in books and academic journals, you will soon notice that some items are cited repeatedly. These are usually core references and should be hunted down, read carefully and occupy prime positions in your review. In a fast-changing but complex area like information systems, you also need to be sensitive to the publication dates. However, don't fall into the trap of thinking that anything over five years old is automatically

Table 6.1 Simple literature review structure

Author	Date	Business benefits	Implementation approach	Model of organizational change	etc.
Smith	1997	Efficiency	Planned change	None	...
Jones	2001	Global reach	Socio-technical approach		...
Brown	2000	Competitive advantage	Emergent and evolutionary	Learning organization	...
...	...	...	...	...	

defunct – most areas have their ‘timeless classics’, old articles that remain highly relevant to this day. At the same time, you can easily make yourself look a little ridiculous by referring to ‘recent’ research (or data) that is more than ten years old. For example, Michael Porter’s work on information technology and competitive advantage, published in 1985 may still be relevant to discussions on business strategy, but it is by no means ‘recent’ research (Porter and Millar, 1985).

Hart (1998, p. 53) provides a useful list of ‘information components’ that a reader should be expecting to extract when they read an academic source:

arguments	concepts	conclusions	definitions	ethics
events	evidence	hypothesis	interpretations	justifications
motives	perspectives	politics	problems	questions
standpoints	styles	techniques	theory	ways of thinking

The list is long and it is perhaps impossible to keep track of all these elements all the time, but almost any really useful paper will have some distinctive characteristics that can be described in some of these terms.

A good review should contain an account of how the literature of your topic area develops its themes and the key ideas introduced. It should also contain a requisite amount of creative criticism, in terms of pointing out limitations, inconsistencies or ambiguities. However, when you are writing a critical review, do not resort to satire, snide comments or libel. It is very easy, with the benefit of hindsight, to criticize the work of others and to believe that the most recent work provides the definitive insight. This is particularly true in the rapidly moving world of computers and information systems, but it is important to give credit to pioneers and to remember that many of the really important ideas that are used in the field are several years old or more.

A good literature review within a student project should act as a guide to the ‘academic thinking’ in your chosen field. ‘Academic thinking’ will include the theories and models used, the research approaches adopted, the concepts that are identified, and the empirical sites used for research. You should expect that there will be some progression or debate over time in your topic, so you will probably be telling a bit of history too. You will also need to make some judgement of the literature you are reviewing, is it essentially normative, explanatory or critical? Does it link together and create a sense of a cumulative research endeavour, or is it fragmented with different authors pursuing very different themes? You will probably want to say something about how successful research in your area has been – what new knowledge has been produced, and what controversies (arguments and counter arguments) have been raised?

By the end of a literature review a reader should be aware of the current state of knowledge and debate – what are the prevailing theoretical views, what lessons have been learned, how has this been reflected in professional practices, and what are the most interesting un-resolved questions? Finally, you will need to express the essential insights that you have gained from the literature. What is your preferred perspective/argument? Why? Where would you like to see further development of knowledge on this topic? What gap in the topic can you identify and how is your project going to add to the stock of knowledge in this area?

In this way a good literature review, even if it is less than 1000 words, sets the scene for the particular work you are doing and conveys to your reader a confident familiarity with the broad area and insight into how the field might be taken on further.

## Summary

- To do good project work you need to carefully consider the sources of information that are available to you, and develop the skills needed to make the best of them.
- The literature of information systems is diverse; to access it will require careful work in libraries using the various computerized tools available. You should explore not only books but also journals and conference proceedings.
- Most projects will require some literature review to be written, structuring prior knowledge in the area and identifying gaps that you can contribute to filling.

## Further reading

For undertaking a literature review Hart (1998) above gives an extended coverage and has many useful suggestions; the book is written from a strong social science perspective. Denscombe (2002) gives useful advice on writing a literature review, and is very clear as to its purpose. Creme and Lea (1997) also offers some useful guidance on how to read literature and how to take notes as you do so.

Creme, P. and M. R. Lea (1997) *Writing at University: A Guide for Students* (Buckingham England; Philadelphia: Open University Press).

Denscombe, M. (2002) *Ground Rules for Good Research: A 10 Point Guide for Social Researchers* (Buckingham: Open University Press).

## Web resources

Google search engine [www.google.com](http://www.google.com)

The American Association for Computing Machinery [www.acm.org](http://www.acm.org)

The American Institute for Electrical and Electronic Engineers Computer Society  
[www.computer.org](http://www.computer.org)

The Association for Information Systems [www.aisnet.org](http://www.aisnet.org)

CIO Magazine [www.cio.com](http://www.cio.com)

ISWorld Net [www.isworld.org](http://www.isworld.org)

JISC Website [online.northumbria.ac.uk/faculties/art/information\\_studies/Imri/jiscpas/site/jiscpas.asp](http://online.northumbria.ac.uk/faculties/art/information_studies/Imri/jiscpas/site/jiscpas.asp)

See also [www.turnitin.com](http://www.turnitin.com)

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