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Research Notes

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Introducing 'Research Notes'

The Editor and I have been giving some thought to ways in which we could highlight current research activity in information management and propose to launch an occasional feature in the Journal called 'Research Notes'. The intention is to give individuals, units or departments the opportunity to describe ongoing research of interest to both professionals and practitioners in the field. In some cases, individuals may wish to give a wide-angled view, while in others they may wish to focus on the specifics of a particular project or programme. We do not wish to adhere to a rigid format, and will be happy to consider for inclusion in forthcoming issues contributions of quite different kinds. If you would like to spotlight your research, I would be delighted to hear from you and can be contacted at the following address: Professor Blaise Cronin, Head of Department, Department of Information Science, Strathclyde Business School, Livingstone Tower, 26 Richmond Street, Glasgow G1, Scotland, UK. Tel: 041–552 4400 ext. 3700. Telecom Gold: 79: GOW006; ALANET 1158; JANET FG @ UK.AC.STRATH.CS; Fax 041–553 1393. To get the feature off the ground I would like to give an overview of some recent and current research in my own department, which I hope will be of interest and at the same time give you an idea of what we have in mind.

Research Notes — The Department of Information Science, Strathclyde Business School, University of Strathclyde, Glasgow

The Department of Information Science was established in 1985. It offers two Masters degree programmes (Information Management and Information & Library Studies) and an undergraduate degree in Information Science, as well as facilities for MPhil and PhD research. The department has nine full-time academic staff and seven externally-funded research assistants. Since its formation, the department has attracted more than £1.2 million of R&D funding and undertaken research or consultancy for such organizations as British Telecom, Hewlett-Packard UK Ltd, Department of Employment-Training Agency, Learned Information (Europe) Ltd, Scottish Education Department, British Library R&D Department, Advisory Board for the Research Councils, Fédération Internationale d'Information et de Documentation, Bank of Scotland, Unesco, Great Britain–Sasakawa Foundation, European Commission, HM Treasury, Apple Computer (UK) Ltd and Carnegie Trust for the Universities of Scotland.

Research activity in the department is fundamentally concerned with the ways in which organizations use information. This includes research into the leverage effect of information technology on organizational performance, the design and evaluation of information systems, and the analysis of the policy, organizational and human factors which influence information-seeking behaviour. Recent and current research has centred on the following areas:

1. Design and evaluation of expert and knowledge-based management systems.
2. Bibliometric analysis of research output and impact.
3. Information management and corporate strategy.
4. Information industry structure analysis.
5. Hypertext and hypermedia systems design.

I would like now to give a flavour to some of the work in progress and point you to some recent, relevant publications from the department.

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Expert systems

The department is a partner (along with CRI, Nokia Research Centre, Pandata, Catholic University of Portugal, University College Dublin and University of Helsinki) in a £2 million ESPRIT 2 project (SIMPR — Structured Information Management: Processing and Retrieval) which will run for 3.5 years and lead to advances in information storage and retrieval systems, and to the development of techniques for management of text stored in very large information banks. A total of £446 000 has been awarded to the department to carry out research into techniques for automatic indexing, text and language analysis, and to design an expert system to classify texts according to a subject taxonomy. The department has already gained some expertise in this general area as a result of a 15-month British Library-funded project to examine the feasibility of using commercially available expert systems shells for the classification of monographs.[1] Recognizing the growing significance of developments in applied AI to information management in organizations, two of my colleagues, Forbes Gibb and Lizzie Davenport, launched a new journal in 1988, *Expert Systems for Information Management*, which is published by Taylor Graham and provides an international forum for the publication of research results in this important area.

Bibliometrics

In 1986, the department collaborated with Computer Horizons Inc (New Jersey) and the Science Policy Research Unit (University of Sussex) on a study commissioned by the Advisory Board for the Research Councils (ABRC) to produce bibliometric profiles of UK universities and research institutions. This is an area of considerable significance in view of the current UGC/UFC selectivity exercise and the heated debate surrounding the use of performance measures in higher education, and it will be interesting to see whether the application of quantitative techniques eventually finds acceptance among both British science policy makers and the academic community. In addition to the ABRC study, staff and research students in the department have undertaken a number of citation and bibliometric studies, ranging from an analysis of the use made of geological theses in the published literature of the field to a study of the degree of fit between Mexican health sciences policy and the actual research carried out in government-supported research institutions and university departments.[2]

Information management

The department was the first information/library science school in the UK to offer a Masters degree in Information Management. The theoretical bases of this programme are tested and fine tuned through field-based research and consultancy assignments for client organizations in both the public and private sectors. Recent work has included a strategic analysis of the role of the marketing information group in a Fortune 500 company and participation in a project to develop techniques for measuring the cost and value of information in a major government department. Two recent student projects also warrant mention: one looked at how information technology was being deployed to gain competitive edge in a number of industrial sectors; the other surveyed developments in integrated academic information management systems (IAIMS) in three Scottish universities. Additionally, staff in the department have contributed actively to the professional literature on information resources management.[3]

Information industry analysis

This is an area where we have been unable as yet to do all the things we would like to do through lack of funding. As a result, our interest in the growth characteristics and structural dynamics of the industry has been based in the main on desk research and analysis of secondary sources. However, in the past couple of years, staff in the department have published a variety of papers on the trend to consolidation and vertical integration in the information industry.[4]

[1] SHARIF, C.A.Y. (1988). *Developing an expert system for classification of books using micro-based expert system shells*. London: British Library Research Paper 32. See also: GIBB, F. AND SHARIF, C. CATALYST (1988). An expert assistant for cataloguing. *Program, 22* (No. 1), pp. 62–71. GIBB, F. (Ed.) (1986). *Expert systems in libraries*. London: Taylor Graham. BAIRD, P. (Ed.) (1987). *Expert systems for decision-making*. London:Taylor Graham.

[2] CARPENTER, N., GIBB, F., HARRIS, M., IRVINE, J., MARTIN, B. AND NARIN, F. (1988). Bibliometric profiles for British academic institutions: an experiment to develop research performance indicators. *Scientometrics, 14* (No. 3/4), pp. 213–233. See also: CRONIN, B. (1984). *The citation process: The role and significance of citations in scientific communication*. London: Taylor Graham. CRONIN, B. AND DAVENPORT, L. (1989). Profiling the professors. *Journal of Information Science, 15* (No. 1), pp. 13–20 . CRONIN, B. AND LICEA DE ARENAS, J. (in press). The geographic distribution of Mexican health sciences research. *Scientometrics*.

[3] CRONIN, B., CAVAYE, A. AND DAVENPORT, L. (1988). Competitive edge and information technology. *International Journal of Information Management, 8* (No. 3), pp. 179–187. See also: DAVENPORT, L. AND CRONIN, B. (1989). Strategic information management: forging the value chain. *International Journal of Information Management, 8* (No. 1), pp. 25–34. BAGGOTT, M. (1988). Scottish banks continue their love affair with IT. *The Scottish Banker*, August, pp. 8–9. CRONIN, B. AND TUDOR-SILOVIC, N. (Eds) (1989). Information resource management: concepts, strategies, applications. *Proceedings of the International Seminar on Information Resource Management, Dubrovnik, Yugoslavia, June 1–5 1987*. London: Taylor Graham. BURTON, P.F. AND PETRIE, J.H. (1986). *The librarian's guide to microcomputers for information management*. Wokingham: Van Nostrand Reinhold.

[4] DAVENPORT, L. AND CRONIN, B. (1986). Vertical integration and corporate strategy in the information industry. *Online Review, 10* (No. 4), pp. 237–247. See also: CRONIN, B. (1988). The information industry in AD2000. In *Information management and competitive success* (J. Whitehead, ed.), pp. 222–250. London: Aslib. DAVENPORT, L. AND CRONIN, B. (1987). Value added reselling and public domain data. *Electronic and Optical Publishing Review, 7* (No. 1), pp. 8–13. GUDIM, M. AND CRONIN, B. (1987). *Anatomy of innovation: An analysis of innovation in the information services sector*. London: British Library Research Paper 31.

Hypertext and hypermedia

In 1988 the Department secured £150 000 from a mix of public and private sector bodies to develop an integrated database on the life and times of the city of Glasgow using Apple's HyperCard software. The resultant 16-megabyte database was created in a multi-user Apple Talk environment comprising six Macintosh SE hard disk machines, one Macintosh II, a Dest PC Scanner and an Apple LaserWriter. The experience acquired in this project is proving to be of great value in two follow-on projects. The first of these was commissioned by British Telecom and seeks to evaluate the potential of hypertext as an interface to public domain information services, while the second represents our first foray into hypermedia systems development. Earlier this year, the Department of Employment-Training Agency awarded a grant of £227 000 to a consortium comprising the department, Vocational Technologies Ltd and Open Technologies to develop a customized hypertext system linked to CD-ROM, covering education, training and work opportunities in Europe post-1992.[5] Yet again, two of my colleagues, Patricia Baird and Noreen Mac Morrow recently launched an international journal, *Hypermedia*, which provides a timely forum for news of developments in this extremely fast-moving field.

I hope this brief resume gives a flavour of the kinds of research topics we are addressing. We are only too pleased to provide further information on request.

[5]BAIRD, P. (1988). HyperCard opens an electronic window on Glasgow. *The Electronic Library, 6* (No. 5), pp. 344–353. See also: BAIRD, P., MAC MORROW, N. AND HARDMAN, L. (1988). Cognitive aspects of constructing non-linear documents. In *Online Information 88: Proceedings of the 12th International Online Information Meeting*, pp. 207–218. Oxford: Learned Information. MAC MORROW, N. AND BAIRD, P. (1988). Moving into hypermedia: hypertext and interactive video. In *Online Information 88: Proceedings of the 12th International Online Information Meeting*, pp. 227–237. Oxford: Learned Information.