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Executive Information Systems {EIS} from the Information Provider's Point of View

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ABSTRACT

Executives in many organizations are becoming if not direct users of computerized information of all types, actively interested in accessing strategic information. What is executive information? What type of EIS does your senior management require? This paper discusses the concept of **EIS** from the point of view of an information provider. Approaches to exploring executive information provision are elaborated such as needs definition, source identification, access mechanisms, flexibility of the process, MIS/EIS differences and complementarity, and systems design. The challenge for an information provider is to know the clients, find the appropriate mix of sources, facilitate the presentation of information based on the users' requirements and their ability to manipulate the data, and monitor constantly the information's relevance. Working with the variety of actors involved in the above is a key element for success in this type of current awareness service. A description of the channels of provision of information to senior management at the International Development Research Centre is given as example.

A buzzword such as *"EIS"* needs to be defined both in terms of its meaning as a current concept and as defined in this panel presentation.

About 18 years ago, MIS (Management Information Systems) was in vogue and a tremendous step forward in focusing electronic systems applications on an organization's internal information management. It is still with us having however moved from basic electronic data processing and printouts to better manipulation and presentation. It is however past-oriented.

Half a decade later, DSS (Decision Support Systems) caught on as an information buzzword, adding modelling applications, spreadsheet capabilities, etc., to the data processing functions of MIS. DSS is more flexible than an MIS, uses some external data sources and with imagination can provide the *"what If"* scenarios useful to managers. As repeatedly pointed out, a DSS is a *support* system, not a decision-making system.

In the competitive world of today with its global dimension, its faster pace of business change and its economic fluctuations, any opportunity for smarter and quicker business decisions is seized. Information and more information exists all over the place, overload is rampant, yet decisions are still made based on *"what's between the cars"* of our executives. The information industry, itself part of the competitive dynamic, presented in the late 80's a further refinement which is today's discussion topic: *EIS - Executive Information Systems. To note: EIS is not "economic information systems" nor "expert information systems"*.

From my perspective as an information provider, aka a professional librarian, an information resource manager, a knowledge engineer, etc., let me give you some descriptions from the current literature which will outline the ground covered by the concept of EIS:

Keith Walters in Strategic Management and Executive Information Systems explains in 1988 that an Executive Information System is needed to:

o   Communicate a commonly useful collection of executive (senior management) information across a broad (and often geographically separated) management community in a timely manner.

o   Provide immediate access to a predefined and interrelated set of critical success factors (CSF). (CSFs are parameters that can be measured and are deemed crucial to successful management of a program or function. This data is typically dispersed throughout numerous organizational plans, status reports, and papers).

o   Help senior managers evaluate and manipulate information

.   Simplify the computer-to-user interface via a mouse or touch screen capability and eliminate the need for a keyboard

.   Use graphics to display trend lines and out-of-tolerance conditions
that are difficult to recognize in tabular lists of numbers.

Wayne Burkan in his 1991 book <u>Executive Information Systems</u> *clarifies:*

Executive information systems are far more than just the electronic delivery of
reports and graphs. The emphasis needs to be shifted away from the computer
and toward the business issues every executive is struggling to address.

Were I to define the IS terms (relating to EIS) and explain their nuances, I would run
the risk of reinforcing the very paradigms I am attempting to break.

and

Hugh Watson is very much to the point in a 1992 article:

EISs deliver current information about business conditions directly to senior
executives. Systems that also provide electronic communications (e.g., E-mail and
voice mail), decision support (e.g, spreadsheets), and office support (e.g., word
processing) are sometimes called executive support systems.

I personally like the definition presented to Online '89 by *Alan S. King* of the Central
Maine Power Company:

"An executive Information System is a means for providing critical information
quickly and easily to the people who make decisions in a corporation. An EIS
helps provide data on an organization's current status, including its progress in
achieving goals. A good EIS should provide classic financial performance
measures, derivative success factors, competitor information, and the ability to
generate adhoc indicators. The user interface should be straight-forward, easy
to use, and must provide the operator with the ability to "drill down" between
successive layers of information -- to view the corporation from the general to the
specific, with a click of a button".

As you have no doubt noted, these experts on EIS do not really define <u>what</u> it is - they
focus more on what is needed or expected. Then the systems and software specialists are
challenged to make it happen!

Now I have led you to my "niche" so to speak, which is no less the classic one of
providing the right information to the right person at the right time- regardless of format and
delivery mechanism. I believe this challenge is also behind ACURIL's Conference theme of
<u>Management of Resources</u>.

My contribution today will deal with the role of the information provider in an organizational
EIS.

A generic executive information system is for many of us librarians/information specialists nothing new. Our executives are our clients and we profile their interests and needs using our interpersonal skills in order to select from the mass of information which comes through our libraries and information centers and to us via the networks we participate in, the bits and pieces of probable use - we call it "current awareness". At our 1992 Canadian Library Association Annual Conference which will take place next month, the session (now almost routine at library conferences) on EIS is subtitled The ultimate current awareness. I would like to believe that the reference specialist servicing the information needs of the senior management in our organization is the executive information system.

Moving to the EIS acronym in capitals, the value-added component is obvious - the system. Systems professionals have focused and rightly so, on executives as a group which could be served better using the technologies available. And an entire software industry has been developing around EIS. In Ottawa, we have a group of information-oriented people which meet to discuss EIS about twice a year so as to talk and admire new implementations.

Applications however, have so far shown us that EIS has a high failure rate. The case studies and experiences reported on in the literature often show that the problems lie in the information provided, i.e. lack of relevancy, questionable quality, timeliness problem, use of historic data rather than current and future trends identification, limited external intelligence, etc.

As practising information brokers, we can read between the lines and point at the importance of knowing the business of and the client him/herself. Determining information requirements and sources identification are of utmost importance.

The staying-power of the EIS idea despite its uneven success, is for us providers an indicator of opportunity - one missed so far. And I quote again:

> *"An EIS provides tremendous potential for corporate libraries. It offers libraries the opportunity to exert their roles as experts in data acquisition and to make that expertise known to the upper echelons of the company. It also gives us a chance to fall flat on our faces"*

To follow the continuum of the provision process, the question of appropriate access to the information by the CEO is the next challenge. The technology is here and becoming more flexible all the time. Some of the applications I have seen are virtually seamless and truly at the fingertips of the executive. Here we do assume however, that the executive is computer-oriented or would want to touch a screen at minimum. Dependence on the degree of computer literacy will heavily influence the software design. Here again, the expertise of the professional information provider can facilitate the process, being familiar with our clients' information access qualifications and our generally non-threatening behaviour, as well as translating this into advice to the system designers on the presentation of the information. Delivery is probably as important as the content since the premise of EIS is in fact, saving the executive's time - it is a new tool but not a new goal.

Currency being of the utmost importance, the updating and monitoring of the information's relevance is again part of the information provider's skills-kit. Our profiling techniques include feedback evaluation and can be applied here to keep the strategic information dynamic and up-to-date.

The EIS challenge from an information provider's point of view is basically a challenge of working with a variety of information specialists in the organization in this case mainly the systems professionals. The teamwork and mutual respect required demands crossing traditional turflines and enlarging our understanding and acceptance of each other's possible contributions - which Joel Barker would call a paradigm shift.

At the International Development Research Centre (IDRC), information has been an important element since its inception. The IDRC Act empowers the Centre to:

    o   establish, maintain and operate information data centres and facilities for research....,

    o   publish and otherwise disseminate scientific, technical or other information;

    o   encourage generally the coordination of international development research;

    o   assist developing regions to build up the research capabilities.

This vision was renewed in the Centre's 1991 <u>Strategy</u> paper "Empowerment through knowledge" declaring the organization a knowledge broker. As knowledge sharing heavily uses information and information technologies, the role the information providers in IDRC play is obvious:

> *".... widespread access to a broad network of Canadian and developing-country researchers, and to information on development and on science and technology, mean that it has a responsibility to inform and influence others, both in developing countries and in other development organizations... The knowledge gained from evaluation of project and program results will be used to inform and influence other actors. IDRC will improve its scanning of the research environment and its ability to pick out important but neglected areas."*

The Centre Library is an important part of the information brokering strategy. At the same time, and not unrelated, is its role as an executive information provider. Our senior managers rely on their Library to keep them informed - the what and how is negotiated through regular interviews and feedback on information provided. The current awareness service practised is dynamic and encompasses all types of external information as well as the internal information available to the Library.

Our profiling technique includes a regular review of information sources used by the executives personally which we then complement; we scan the environment as defined by them : at the political level (national/international) or research-related (sector focus); development community intelligence (new organizations, appointments, strategic meetings, impact reports) and presentation of the information regularly and in formats they prefer. We never give references- always the information itself however heavily selected and pared down.

Knowledge of internal information sources is also required for satisfying additional requirements and the inventorying of all organizational information resources is a given for a quality information service. It is as important as the information needs analysis.

The key is to be part of their information production providing whatever makes them look good and anticipating issues and news.

The IDRC does not have an EIS as prescribed in the systems literature. It has looked at some of the packages in the past, found these wanting in terms of organizational needs, and is well aware of the investment / failure rate of expensive, customized versions.

Should the organization be interested again - with its new management team and a new strategy - the steps to follow are described clearly in the EIS literature. Although an information provider's role is indeed present in the case studies it is not attributed in most cases to librarians and other information providers. Our participation will require energy and time, both for the information provision angle as well as for the skills required to participate in a team where the worlds of information systems and information services are not of one.

At a recent EIS seminar hosted by IDRC on International Special Librarian's Day, an executive described her colleagues as "news junkies". The news obsession in this case points to the influence of the media on current issues and the resulting critical decision concerns. Identifying the "Critical Success Factors" (CSFs) of the organization is the basic challenge to developing a successful information service and delivery system. Trends in a particular sector of activity can be analyzed and many of the developments anticipated if a tracking system is in place. Fruitful follow-up will focus on new ideas and approaches, indicate need for different intelligence and/or research and even changing goals and objectives. The CSF's in this instance are a moveable feast, making the need for credible and timely information support all the more critical.

Professionally, I believe in the empowering role of information which in today's "total quality management" philosophy should be available to all participants in an organization's business.   Hence the elitist aspect of an information system just for executives is not comfortable. Let us aim higher and look at EIS as part of what one writer called EIS - Everyman's Information System, and which I would call Everyperson's Information Service!

As a closing comment on EIS, let us not stand still : a new acronym and business is already in the works : ESS - Executive Support Systems - which makes DSS and EIS into an even more powerful - and we hope - useful tool for today's business decisions.

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