

Information Manager

Abstract: This paper analyzes the role of information managers, attempting at a definition of those special qualities that distinguish them from information scientists and librarians.

In the early nineties I tried to provide an account of the role of information managers within organizations (Ros, 1993). At the time, an adequate definition of the decisive role played by information in shaping social progress was a fundamental concern for researchers (Joan Majó, 1988). While many factors of progress were being pointed out, they were all related in one way or another to information, a new productive factor that allows for the advantageous substitution of the classical ones. Indeed, an improved process technology (information about *how to do things*) facilitates a reduced consumption of energy and raw materials. Better logistics (information about *how to combine things*) allow a reduced use of capital. Finally, an adequate automation (computer science) substitutes labor.

As more and increasingly structured information is incorporated to the productive process, better competitive conditions are achieved; this, in turn, allows for the further substitution of the traditional factors of production. A given society's economic success depends crucially on its capacity to adapt to this new situation. Future economic development relies not so much on a greater quantity of energetic, mineral or even financial resources, as it does on sufficient availability of information and technology. This reality presses on society the urgent need to recognize education as both a personal and a collective priority. Members of society must have access to education and training, in order to increase their knowledge and their learning skills.

In this light, the shift from a conception of information as service to that as economic resource or information good was a necessary one. Today, information must be regarded as a good; one capable of generating more value the more important its role becomes in issues relating to the firm, and, specifically, to decision-making (López Yepes, J., 1989).

Information is thus destined to occupy a prominent role in organizations and in the business world at large. This is largely derived from the following main features it presents: 1) information -like money, capital goods, labor or material resources- possesses value; 2) it is an input which can be transformed into outputs beneficial to the ends of the organization; 3) It results in expenditures that can be calculated by accounting methods; 4) its development opens up to different alternatives (Horton, 1990). Even if "it is difficult to quantify the value of information, this will surely depend on the use it will be put to. In any case, it is a must that an information manager -an information scientist- be employed if we are to reap all the benefits (saving of time and money) that can be derived from it" (Wilson, 1992).

It was in this way that Information Management was born. Due to its particular nature, it crosses the boundaries of any one particular discipline: since the subjects emitting information are varied, it is clear that the information scientist, for example, must work alongside with other professionals. Yet, it is in no way easy to define precisely the different subjects involved in the processes of information treatment and management. Together with the users, Horton (1990) mentions **information suppliers**, who create or produce information goods and services for users. They can be found between users and **information handlers**, who transform data into information ready to be used (statisticians, librarians, **information brokers**). The **information counselor** appears, in turn, between the user and the **information**

handler, or between the user and the information supplier. Finally, we have the **information manager**, who must face a plurality of functions, or, rather, a number of tasks each including a variety of functions. The information manager must show acquaintance with:

- Data Management Systems (DMS), which allow the access to data.
- Data Dictionary Systems (DDS), which facilitate the automatic control and referencing of data.
- Query Languages (QL), that allow the final user to access the data search directly.
- The 4th Generation Systems, that serve to plan and control the development and evolution of information systems.
- Case studies, useful to automate databases and design systems.

Before such a wide scope of functions, we asked ourselves: What are the most distinctive properties of this information manager? Where are they trained? How do they achieve their know-how? Is their mission within the organization a fixed one? Do they perform the same tasks in different organizations?

Those authors who consider these issues from the standpoint of business management or public administration (Minner van Neigen, 1993), seem to regard the information manager as someone trained to be a manager, who has only eventually ended up entrusted with the responsibility of dealing with the information resources of the organization. On the other hand, the fact that the issue is being discussed with some frequency in the professional literature of Information Science leads to the thought that the information manager could equally be conceived as a trained information scientist who carries out his or her mission from the viewpoint of management and administration.

Whatever the case, it seems that the function of such a manager can be described, very generally, as one of administering the main information system and sub-systems of the ensemble of an organization, and attempting the attainment of a harmonious ordering of the different information elements and functions.

To provide a more specific account of the basic characteristics proper to a professional figure so little defined to date (and that may indeed be undefinable), one may consider the possibility of a synthesis of the respective proposals of the literature of Library and Information Science and that of Management and Administration. The guiding lines of such a synthesis could be the following:

- a) The role that the information manager has or should have in organizations.
- b) What we can find out about the work carried out by those who label themselves as information professionals.
- c) What can be extrapolated from the experience of selection and hiring of information professionals at the different levels.

The role of information managers (Cronin, 1985) consists in identifying, collecting and coordinating information across organizations and managing it as a resource. Moreover, Cronin believes that their responsibilities should go beyond the model of information server and supplier, associated with information science professionals; information managers should also have a say in their organization's planning and systems' application. This author insists in the actual distinction between information managers and traditional information scientists, as having to do with a lesser emphasis of the former on strategic and operative concerns than on issues of planning and control. Don Matches, referring to information systems (implying also its management), defines their objectives as foremost related to making accessible to the user a wide information base that will be exhaustive, reliable and that will arrive on time. Attainment of this goal would, in turn, need the provision of a systematic method to control and direct such a vital resource as

information. This author also underlines the need to provide an efficient interface between humans and computers, the latter being key tools in the generation and control of the information flux of most organizations.

The four principal areas of training of information managers would hence be: issues of organization and control, information systems, information technology and communications (Kirkham 1991).

Although not referring directly to the profile of the person entrusted with responsibilities of information management, Matthews (1976) does mention the variety of skills and methodology pertaining to the different disciplines that come into play with the functioning of information systems. Together with accounting, marketing, operations control, etc. he underlines the importance of three further disciplines: computer science and information technology, management and systems analysis.

Finally, information managers must have professional trajectories like those of, say, Information Systems Vice-Presidents (Murdick 1986). Such careers necessarily follow one of two paths: either the professional has been transferred from managerial positions of different characteristics (but similar level), or she has attained this new position by climbing the company's information sector's organizational ladder. According to this same author, information managers must possess a thorough knowledge of their organization and its objectives and be able to communicate effectively (both orally and on paper), especially with those responsible of other departments that make use of the information system. They need also be able to relate with both superior executives and subordinates and have knowledge of information treatment and process and transmission technology, as well as the ability to design and evaluate systems. In Murdick's view, the training plan that will answer these needs must participate in the following fields of knowledge: systems analysis and design, office applications, database operation, software and applications' programming, organization and operation of the data processing department and management of information systems.

Of course, it must be said that human beings are, ultimately, those responsible for information management, if aided by information technologies (Sotolongo, 1993). From this point of view, human beings exhibit the double condition of being both main media for information –as well as the most valuable resource thereof- and enabling other human beings to use information resources adequately.

With time, the profile of the information manager –also known as principal information officer and information entrepreneur- has been more and more clearly defined in practice, in the public as well as the private sector. Horton (1990) ratifies Taylor's views regarding the four "core competencies" of such a professional: 1) knowledge organization and management, 2) handling of information technology, 3) analytic skills, including some training in economics, and 4) solid inter-personal skills.

The ways to acquire these skills are usually different depending on the level of development of each country. Developing countries tend to emphasize this kind of training at the undergraduate level. Our view is that information managers, like pilots or ship commanders, learn-by-doing: the more hours spent on the task at hand, the better they get at it.

This is the case of Sotolongo, who lives (or survives) in Cuba, where he works as information manager at the Finlay Institute of Biotechnology. In his view, the manager of such a kind of information operates within a space of at least five dimensions, namely 1) scientific, 2) productive, 3) quality control, 4) economic and financial, 5) business. Furthermore, he provides us with a set of five golden rules:

-Users must be provided with the information they demand.

- Information must be as close as possible to users.
- Users are always right.
- It is less important to have information than to know how to use it.
- Never forget any of the above rules.

Using this conception as our starting point, and further observing and reflecting on the professional world, we have elsewhere (Ros, 1994) attributed the following characteristics to information managers:

- a) They assume a wide range of responsibilities within the organization, from the direction of the application of existing information technology to business, to decision-making related to the management and transformation of such technology. The latter involves database planning, software choice, incorporating technical innovations when possible and so on. In general, these are responsibilities having to do with both technical and human resources.
- b) It is not strictly necessary that they be expert in each and every one of these fields; however,
- c) they must be experts in information, in planning and coordinating resources.
- d) They must operate in areas related to information resources, being able to identify and evaluate any form of information, and adapting it to use. They must be able to apply the necessary technology to collect and store this information, as well as that necessary for its retrieval and distribution. They must also work in the domain of management, and be at their ease in fields such as general planning, human resources, communication, accounting and marketing.

In the context of a conference at the *Universidad Complutense de Madrid* (1996), a particular panel was discussing the role of information managers (defined with reference to information scientists) in public organisms of the European Union. It was said, among other things, that information managers at such offices need not have graduated with a degree in Information Science, be fluent in two or three languages, have solid computer skills, excel in inter-personal skills and social relations; all these attributes should rather be **presupposed**. Unfortunately, little reference was made to the additional qualities that would have served to define these professionals more adequately.

Albeit, the information manager is different to the librarian in significant ways. Librarians collect, preserve, catalogue and circulate “hard” materials, even if this is changing due to the increased importance of on-line databases. Information managers, on the other hand, are much more concerned with the bottom line than with quotations and references; they must also account for the positive and negative effects of the information they supply. As we have already pointed out above, information managers should be conceived as the dynamic soul of any organization. For this to be possible, they must perform their task with a multi-disciplinary focus, be able to work well alongside executives, know the nature of the business, and possess technical, data organizing and inter-personal communication skills. In this way, they will be at a position to contribute economic-related information to the organization’s financial planning. Their information related to products, clients and competitors will serve the marketing department. Further, information about employees will be a great aid for the human resources department. Finally, information about regulations, the general shape of the economy, industrial trends

and so on will be used by those dealing with the external factors that condition the firm's success.

In fact, Meltzer (Cronin, 1985) considers information management as a high level executive function of any organization. This function consists in developing procedures, programs and policies that will enable users to maximize the efficiency of information resources. Information managers must identify, collect and coordinate information across the organization, and manage it as a resource. Thus envisaged, it is crucial that they possess the background that Matthews pointed out, and that was described above.

As a note, it must be said that the figure of the information manager can, of course, conflate with that of the CIO (Chief Information Officer), as Cornella (1994) has pointed out. The latter is a top executive whose main task is also information management, being responsible for wider areas than the person in charge of the company's computer resources.

Ultimately, information scientists will give way to information managers, who are destined to become the soul of organizations. As such, they must go beyond a useful role of supplying decision-makers with information and take responsibility in introducing adequately the innovations companies need to survive. If this happens, then we are right in affirming that information managers are factors of change, engines of change, and, in a way, that very change itself.

Information managers must assume the reality that information leads inevitably to innovation. They must make sure that their given organization –with informative, economic, social or institutional purposes- is always up-to-date as to information technologies. A good example of this is the present-day revolution caused by the use and application of internet technologies, or the access to large amounts of information in the form of databases, which in turn allow for the progress of science and technology. Information managers need therefore plan the organizations' information technology management policies, plan databases and monitor the application of software and technical innovations in order to promote their excellence. They must also be in charge of human resources policies, selecting the most humanly and technically qualified personnel.

On the other hand, we are not saying that information managers should be computer science experts, capable of creating the necessary programs and applications. Neither must they possess an extensive knowledge of national and international databases. However, we do affirm that they have to be information specialists, know where to find data, what are its uses and how it is managed. They must be, in sum, experts in planning, coordinating and controlling resources.

They must be at home operating information resources, as well as evaluating them. Further, their expertise must allow them to use technology to collect, store, retrieve and distribute information accurately.

In terms of managerial skills, they must be experts in general planning and human resources, favoring personal contact with their co-workers. They must be able to value the economic role of the information they manage, as it applies to investments and reduction of organizational costs. Finally, they must master the area of marketing, at least in its practical aspect.

How is all this achieved in practice? I would like my humble reflection to serve as a criticism of ourselves, of our academic curricula, of our routines of planning and teaching courses, of our inability to teach you –future information managers- adequately. I firmly believe that our programs must adapt to the demands society wishes to place on us. No one with a degree in information science should possibly regard an employment opportunity from the media and think to him or herself, surprised and afraid, "I can't do that, either".

I believe that we, professors, must strive to inter-relate our fields of knowledge, through interdisciplinary courses. Marketing, business theory, information technology, information systems, information management and databases should not become water-tight compartments; rather, they should be taught integrally, bearing in mind that the most important end is the preparation of information managers for a world that is demanding them urgently.

BIBLIOGRAPHY

Cornella, Alfons. *Los recursos de información. Ventaja competitiva de las empresas*. Barcelona : ESADE, 1994.

Cronin, Blaise. "Information Management." *S. Africa Journal of Library and Information Science*, 1985, 53 (3) :105-109.

Horton, Forrest Woody, Jr.- The Information Management Communities on Five Continents. *Information Management Review*. V. 5. N. 4. Spring 1990, pp 59-64.

Kirkham, Sandi. "Customizing Graduate Education for Information Management", *Journal of Education for Library and Information Science*, Summer/Fall 1991, pp. 8-12.

López Yepes, J. *Fundamentos de Información y Documentación*. Madrid, Eudema 1989

Majó, Joan. En Coll-Vinent, R. *Información y poder*. Barcelona. Herder, 1988

Matthews, Don. *The Design of the Management Information System*, 2d.ed. New York, Moffat, 1976.

Minner Van Neygen, Veerle. "Perfil profesional y preparación del gestor de información en las organizaciones". *Revista General de Información y Documentación*. Vol 3, no. 1. 1993.

Murdick, Robert. *MIS Concepts and Design*. Englewood Cliffs, N.J., Prentice Hall, 1986.

Ros García, Juan. *Documentación General (Sistemas, redes, Centros) Guía del alumnos*. Madrid, Síntesis 1994.

Ros García, Juan. Metodología para la puesta en marcha de un Centro de Documentación. *Revista del Instituto Marqués de Los Vélez*. Murcia, 1997.

Ros García, Juan. "El Centro de documentación como dinamizador de la empresa". *Revista General de Información y Documentación*. Vol. 8, no. 2. 1998.

Sotolongo Aguilar, Gilberto. "Derroteros de la gestión de información y documentación en las organizaciones. *Revista General de Información y Documentación*. Vol 3, nº 1. 1993.

Wilson, Tom. *Las necesidades de información en los negocios*. Diario La Verdad. Murcia, Saturday, October 17th, 1992.