

A perspective of the competencies of Information Professionals in the second decade of the 21st century

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Abstract: The last two decades have brought new challenges to information professionals, in a context of accelerating digital information production, digitalization in the information society and the challenge of media obsolescence and information preservation and reuse. Important changes have occurred in the scientific field of information, in the profiles and competences of professionals. The main objective of this communication is to identify new competences, to present the recommended changes in the context of the current information society, based on the analysis of referentials, from the Euro-Referential I-D (2005) to more recent documents such as Records and Information Management Core Competencies (2017), especially from referentials presented by professional associations in the sector and others around the world.

Keywords: Information Professional Skills, Professional Skills References, Professional Associations

1. Introduction

Quick changes in the field of Information require professionals to develop new competences and update their profiles. Competences are directly related to professional activity. Any profession to be accomplished requires a basis, which was previously more focused on knowledge, but nowadays, the emphasis is on the ability to act, on action and for action (Observatório da Profissão I-D, 2006). As stated in the Euro-Referential I-D of ECIA (European Council of Information Associations, 2005), competences are the set of necessary skills and the mastery of behaviors required for the practice of a professional activity.

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At the end of this work, a proposal is made for the perception of the competences of professionals and the emerging roles they play today, so that the practice of their activities is guided by quality, following trends and adapted to new functions and services.

2. Professional competences

In the field of Information-Documentation, two models of training and education coexist in Portugal today, resulting from the postgraduate courses of librarian-archivist, the first, and from the end of the 20th century, the bachelor's and master's degrees in Information Sciences, the second. Although the librarian-archivist training model has little expression in professionals active in the profession, Ochôa (2018) identified that these different models result in meanings and epistemological positions for different generations of professionals.

The researchers Ochoa and Pinto (2019) analyzed the European vision of Information-Documentation (ID) skills, reaffirming that the profession is going through a phase of reconfiguration, and that European policies and strategies are very few due to the teaching models of universities. They also conclude that, due to the existence of public information policies, associated with Open Science and digital, professions in Information area are emerging with a new profile. They also reveal that the main emerging professional profiles, and their respective competences, are in the areas of research data management (data science), Big Data, open access and scholarly communication, curation, digital preservation and digital humanities (Schmidt et al., 2016).

The challenges, which the digital transformation introduces in society, also require a change for information professionals. They will have to identify "the necessary and indispensable skills [...] to fulfil management and curatorial functions." (Reys et al., 2017, p. 5).

In the field of ID, the need is emerging for the inclusion of a range of knowledge and competences, which go beyond traditional librarianship and archaistic to include aspects related to information and knowledge management. New competences such as collaboration, organizational, strategic and, increasingly, the integration of soft skills and knowledge in the field of document management (Fraser-Arnott, 2017) are becoming more relevant.

In the document Skills for Work (San José State University. School of Information, 2022), which analyses the career trends of these ID professionals, the same reflection is made, stating that there is a demand by employers for those who have skills in areas, among others, such as Marketing, Financial Management, Teamwork, and who have an Innovative Spirit and Capacity for decision making, in addition to skills in the area of Information and Documentation.

3. Method

This work is exploratory in nature and aims to collect and discuss information on the topic, as well as to list various perspectives and ideas, which allow the presentation of a systematic work of analysis and collection of new data, on the new competences for information and documentation professionals.

A literature review was carried out on the topic of Competences of Information Professionals, which was searched in the Web of Science, Scopus and LISA (Library and Information Science Abstracts) databases, with the time limit 2000 to 2022. The search expression used the concepts Information Professional Profile, Information Professional Competences, Professional Reconfiguration, Information Professional. The results were limited to the area of Social Sciences and to journal articles.

A reading of referentials was also carried out, mainly from professional associations in the sector, and others, with different views and from various parts of the world. Document analysis was used to collect information, identifying competences. The different nature and structure of the documents studied did not facilitate their analysis, however, some comparisons were made.

From the documentary analysis and the literature reviewed, a list of already established competences was selected, which serve as a basis for the presentation of the recommended changes for contemporary times.

4.The Euro-Referential I-D

In 1998, the European Council of Information Associations (ECIA), consisting of nine professional associations from different European countries, created the DECIDoc project, whose main initiative was to develop Euro-competences for ID. This project was submitted to the European Community Commission, which partially funded it under the Leonardo da Vinci program. Six of ECIA's members agreed to be partners in the consortium, which aimed to ensure the implementation of the

project, together with three other European professional associations. Altogether, the German, Belgian, Spanish, Finnish, English, Italian, Portuguese, Swedish associations collaborated, with coordination by the French one. Between 1998 and 2001, the competences of information professionals in the different areas in which they work were surveyed and inventoried. "The raison d'être and usefulness of a reference of this nature is to describe and give an understanding, as accurately as possible, of the reality [of competences] at the time it was written. Not that of the future." (ECIA, 2005). Work of this nature quickly becomes outdated and by the time it is published it will be out of date, given the rapid evolution and transformation of reality. To monitor this situation, a permanent committee was also created to correct and amend flaws that were identified. Considering all the changes made, a new edition, the second of the Euro-Referential I-D, was produced and translated into Portuguese (2005). However, no further revisions have appeared subsequently.

To summarize, the Euro-Referential I-D (ER), first published in French in 1998, had as its dominant concept the idea that the mission of information professionals is to process the information needed by society, incorporating added value. Within the scope of this document, updated in 2005, information and documentation professionals are those who work in the field of cultural heritage: librarians, documentalists, archivists, conservators and art curators (ECIA, 2005).

The referential is addressed to professionals, employers and the general public. But it also appeals to "professionals who wish to develop the skills of users, to characterize their degree of information literacy, both in terms of circulating, accessing and using information"¹ (ECIA, 2005). In other words, the emphasis should also be on user education and advocacy for the profession. The ER recognizes thirty-three areas of competence, divided into five groups. These groups are transversally categorized into skills, which in turn are divided into six possible orientations. The ID professional

has technical-scientific competences. Technical skills fall under the heading of know-how, and scientific skills under the heading of know-know. Aptitudes are natural or acquired dispositions that induce behaviors that cut across different areas of knowledge, which fall under the heading of knowing how to be and knowing how to behave. Because they are personality characteristics, they are more difficult to assess, and it is in behavior that they are identifiable. There are four levels in each competence domain and the same professional may possess competence at different levels for different domains.

5. Record Information Management

The Record Information Management (RIM) (ARMA International, 2017) is a self-assessment tool for graduated information professionals to identify their proficiency in each of the identified competency domains. It consists of six competency domains, which link knowledge, tasks and skills, as well as four levels of proficiency.

ARMA International (Association of Records Managers and Administrators) is the organization responsible for this standard. It is a non-profit professional association formed in 1955 by information professionals, with the aim of "providing informational professionals the resources, tools and training they need to effectively manage records and information within an established information governance framework" (RIM, 2017). It is made up of professionals from the United States of America, Canada and 30 other countries, based in Kansas City, United States of America. The RIM responds to the need to update and reflect the changes that challenge professionals: responding to significant challenges from technology; the need to take a more proactive and collaborative role to ensure information governance strategically in organizations.

The referential consists of an organization of the core competences required of a professional according to four progressive levels of proficiency, from entry-level, basic level to expert-level,

advanced or specialist level and the domains of competences. The latter are understood as "(...) knowledge, skills, characteristics or traits that contribute to outstanding performance in a particular profession". They are described in such a way as to be observable, measurable and comparable. They concern not the task itself ("what") but the way tasks are performed ("how").

6. The role of professional associations in establishing competency benchmarks for the ID profession

We highlight some of the documents on competences for the ID profession, in publications of professional associations (librarians, archivists, information professionals) from the countries: United States of America, Canada, United Kingdom, France and Spain.

In the initial considerations of the documents of the professional associations analyzed, the scope of action of the ID professional area is based on the same principles, but the structure and content of each document has different characteristics, which makes it difficult to compare both the general considerations and the way they present the professional competences.

The Special Libraries Association (SLA) of the United States of America approved in 2016 the document Competencies for Information Professionals (SLA, 2016), which is intended for use by Information Professionals (IPs), trainers, employers and students. It states that, whatever the professional designation, all information professionals have their focus on data and information management and a holistic view of the role of information and knowledge in organizations and communities. In the same sense, the ER mentions that the IP collects, processes, manages and makes accessible information, warning that new technological means should not forget the content of that information.

The American Library Association (ALA, 2021) document focuses mainly on training needs, which has led to recommendations for IPs and students. It recognizes that libraries respond to users' needs by providing resources for learning, and also contribute to building the local community.

In the United States, the Society of American Archivists has identified fourteen Core Archival Knowledge (SAA, 2011), without, however, referring to the competences and skills identified by the competency referentials. Among the "core areas of archival knowledge" are technical knowledge of information management; administration and management; dissemination and communication; advocacy; ethics or electronic systems. Concerns center on the competences needed to perform the functions of archival information management and the identity of the profession, not always embedded in the more general area of Information.

The desiderata of these instruments relate to the articulation between traditional professions and those emerging in the new-digital information area. A broader vision of the insertion of traditional areas in the area of information is based on associations such as ARMA, which bring together information professionals, especially those working in organizations producing information in the digital age.

Agreeing with SLA on the purpose of these documents, the Canadian Association of Research Libraries (CARL) sees libraries as organizations that create conditions for learning and for the growth and development of people and institutions. Like other similar documents, it states that there is a process of learning and developing competences in professionals, according to the function they occupy and the institution where they work (CARL, 2020). As an association of professionals linked to the research area, the objective of the competences identified is to provide a better service to its users, which is a transversal principle to any service, as well as the constant adaptation to the evolution of Information and Documentation. The fact that technological issues evolve very quickly was the reason for not including related competences (CARL, 2020).

In the United Kingdom, the Chartered Institute of Library and Information Professionals has created the My Professional Knowledge and Skills Base Tool (CILIP, 2021), for Ips, to identify the areas they need to develop to evolve in the profession. In addition to the required competences, Ethics is valued as the basis of all professional activity and the idea that the professional must keep up to date with the profession and the outside world (CILIP, 2021).

In 2007, in France, the Association des Professionnels de l'Information et de la Documentation (ADBS) produced a referential of professions and functions in the ID area, justifying that the profession is more open and focused on users; information systems are increasingly complex to implement, composed of free software or commercial products, where integration and interoperability issues must be ensured. The role of coordination has to be strengthened, as well as the role of animation and communication with staff and users. This document presents the various ID professions: the document information system administrator, the librarian, the digital consultant, the documentalist, the teacher-documentalist, the knowledge manager, the data manager, the editorial manager, among others. For each profession, it presents the mission, the level of qualification, the professional training, the activities carried out and the competences required (ADBS, 2007).

In 2020, ADBS started a consultation of professionals to update the framework, creating an online form to collect information, in liaison with other professional associations and with the support of various academic structures. The ADBS intends to develop a project to revise the professional skills frameworks in the field of ID, identify and structure new areas of expertise, define skills according to needs, so that skills and professions are recognized in the labor market (ADBS, 2020).

It should also be noted that in France, other documents have appeared, authored by the French National Library (BnF, 2012), which refer to jobs, missions, content of activities and the skills required in the work environment, and another, from the Ministry of Higher Education and Research

(Ministère de l'Enseignement Supérieur et de la Recherche de France, 2008), dedicated exclusively to the skills of the librarian.

The Association des Archivistes Français (AAF) shows particular concerns related to the professional practice and identity of French archivists, which are not usually associated with the field of ID. This association created a competences referential between 2001 and 2008, revised in 2017. The document focuses not on competences and skills, but on the tasks to be carried out in each service. Therefore, it does not refer to the profile of professionals, but rather to the tasks essential to the proper functioning of an archival service. The recognized core archival competences are document management, classification and description, conservation, communication, management of an archive. The aim of this document is to provide the general public, employers and employment agencies in France with a "general reference" filled with a strong professional culture ("culture métier"), which dilutes the major differences between the various services whose mission is to manage information produced by organizations, from traditional archives to information managers. In short, the document recognizes and identifies a "common and unique métier culture, an identity that separates the contexts of exercise, the differences between the content of posts, the existence of certain specialties" (AAF, 2016, p.3).

In Spain, not produced by a professional association, but from an advisory body that brings together representatives of the different public administrations and the main library associations, there is a referential document produced by the Working Group on Professional Profiles of the Library Cooperation Council (Ministerio de Educacion, Cultura y Deporte, 2019), which establishes profiles and ID competences. It is composed of characterization sheets of these profiles, listing professional and personal competences, based on the consultation of the Euro-Referential I-D, referring to new competences, after a questionnaire that they carried out to the professionals. However, the Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística

(FESABID), of which 21 ID professional associations are members, has an online working group called Nuevos Roles, which was created in 2018, mainly to promote and raise the profile of the profession and its professionals, since the changes resulting from the digital transformation in society, companies and the Public Administration, and the new forms of information consumption and knowledge distribution, require profound changes in the skills of information professionals. It recognizes that document management, the creation and dissemination of information in digital environments, information literacy, open science, among others, are new areas in which competences need to be defined for ID professionals. Thus, it points to the study of professional roles and profiles, with compilation and analysis of documentation from various sources; identification of competences, skills, tools, relationship with other professional areas, etc.

The International Federation of Library Associations and Institutions (IFLA) presented the Trend Report 2021 Update, which documents the trends for the library profession. This document was the result of the ideas presented by library managers from around the world, who participated in the last World Library and Information Congress, and discloses the trends that can be found in organizations and at the individual level, as they will shape and impact the profession, institutions and communities in the coming years.

The report highlights two trends: the rise of soft skills and the importance of qualifications. This is a time of great technological change, so information professionals need to be able to adapt to new situations and constantly innovate. Soft skills refer to abilities that refer not only to technical knowledge, but also to behavior and way of working and are increasingly important. Professionals have to keep up with the expectations of their communities, using various skills, from resilience, flexibility, building trust in the community, building partnerships, solving unexpected problems positively. They emphasize the importance of creativity and innovation, critical thinking within the profession, around societal trends, for example in the uptake of digital technologies. Literacy and

Metaliteracies are mentioned, which should be developed to meet the needs of people in the information society, based on emotional intelligence. Professionals are recommended to work closely with colleagues, even across borders, to identify trends and solutions.

The other trend concerns the complexity of the competences that professionals should possess, which reflects the complexity of the information environment. Professionals must obtain levels of education compatible with this evolution, taking advantage of continuous learning, and obtaining new skills certifications. In addition to soft skills, professionals should have basic technical knowledge in various information areas. Skills include digital skills, which should enable better user-centered services, STEAM (Science, Technology, Engineering and Mathematics) skills, programming skills, sustainability and environmental literacy, according to the needs of users of information and documentation units (IFLA, 2022).

The International Council on Archives, through its European branch, has also endeavored to present a manual for the construction of a competency referential for European archivists. The SPA (ICA Section for professional associations) of the International Council on Archives (ICA) and EURBICA (ICA European Regional Branch) developed, between 2006 and 2011, the document "Shape your own archivist: developing a competency model: a guidance" (ICA, 2011). It is a handbook for national associations of archivists and other organizations to develop competency profiles and skills in a rapidly developing digital age.

It is therefore not a benchmark, but rather a set of specifications to be respected for the definition of archivists' competences and skills to prepare professionals for changes in the profession. The second part of the document presents several cases of good practices in European countries, as well as an analysis of the first version of the RIM. It aims to prepare competency profiles, i.e., to produce a "statement of the tasks and responsibilities of archivists and to identify the knowledge and skills

essential to the profession", to stimulate the development of curricula in the recordkeeping domain, without situating it in the broader Information-Documentation area.

7. Competences for Information Professionals

The 4th Industrial Revolution, a term created in 2016 by World Economic Forum President Klaus Schwab, refers to a convergence of digital, physical and biological technologies that change the way people live and work. The use of technologies such as robotics, virtual reality, artificial intelligence and the Internet of Things are creating opportunities and challenges for individuals and affecting the way information units work (Ayinde & Kirkwood, 2020). Thus, new skills are required from ID professionals, such as research data management and analysis, digital curation (Freitas, 2017; Reys et al., 2017), Open Access management (Ochôa & Pinto, 2019; Schwartz, 2016).

The study carried out by the McKinsey Global Institute, cited by Ayinde and Kirkwood (2020), states that the 4th Industrial Revolution requires skills, distributed in five groups: physical and manual capacity, basic and high-level cognitive capacity, social, emotional and technological capacity. Jobs linked to basic physical and manual and cognitive skills may be reduced by Artificial Intelligence and automation, but other jobs may emerge. In order to evolve and adapt to new realities, the professional focus needs to be on skills such as higher-level cognitive skills, not forgetting social and emotional skills, in addition to technological ones (Carter, 2017).

Constant transformations require continuous adaptation and learning in the profession: "The information professionals are to embrace the ability to learn, unlearn and relearn new skills in order to survive" (Ayinde & Kirkwood, 2020). Therefore, ID services must provide professionals with continuous training to overcome challenges and be prepared for procedures aligned with the 4th Industrial Revolution. At the same time, attention to the local environment is required, in order to

perceive and create responses to the needs that arise today, updating technical skills, such as content, reference and software management (Koya & Gopakumar, 2018).

As the volume of information has been increasing in organizations, there is a growing need for collaboration between various information professionals (Reys et al... 2017), both in sharing knowledge and in creating new solutions, both in the sharing of knowledge, skills and teamwork, and for the definition of "hybrid profiles": "This collaboration [between professionals managing different types of information] will require information specialists to develop a better understanding of each other's roles and may ultimately result in the creation of new hybrid roles in which employees may need to be able to perform the functions of all of these disciplines as well as some new ones as we have seen through the newer discipline of knowledge management." (Fraser-Arnott, 2017).

Schmidt et al. (2016) addresses the evolving role of information professionals in the changing environment, arguing that they need to adopt new competences to meet the needs of users in the digital world. The paper identifies five key skill areas: technology, information literacy, teamwork, communication and leadership. Interdisciplinary collaboration and flexibility are essential skills, as are information technology and marketing.

The intersection with other competences results in the emergence of a new profile, that of the "generalist information professional". But in organizations, multidisciplinary teams of information professionals are needed, with expertise in Document Management, Information Management, Knowledge Management and Library and Archival Science. The profile of the professional should also include skills such as collaboration, user service and communication (Carter, 2017), management support, understanding and strategic alignment with the organization, technical skills in document management and information management, and personal qualities (Carter, 2017; Fraser-Arnott, 2017; Mann, 2018). Fernandes and Ochôa (2021) advocate the creation of profiles

that focus on transdisciplinarity, versatility and adaptation to the new challenges arising from digital transformation, such as digital curation that supports transversal skills (informational, technological, communication, management and personal).

There are competences and skills that are still little valued, which go unnoticed in the referentials and documents of professional associations, often subsumed in other competences. For example, soft skills, interpersonal skills, cannot be forgotten, even by those working in the technical area. Relationships, respect and acceptance of the different communities in the services, working with others, complementary knowledge, are required skills that result in benefits for the user. It is in the workplace environment that groups, competency domains and attitudes or soft skills have to be reflected, as well as their applicability (Lowry, 2022).

Conclusions

From the literature review on the subject, topics were collected on the urgency of including other professional competences for those who work and generate information today. The literature research was complemented by the reading and analysis of two referentials of ID competences, which provide data on this research context, and by the reading of documents from professional associations from various countries on the competences of IPs.

The revision of the existing competences referentials, whether from academic institutions or professional associations, among others, should be carried out at a European, international, and also at a national level, based on the real activities of professionals in connection with professions related to ID, because the transversal competences implemented in ID professions are developing considerably.

The referentials lead to a coherent evolution of the profession and serve as a guiding direction for initial and ongoing training. There are numerous advantages of a systematization of professional

competences that are a benefit not only to the professionals themselves, because they allow them to define their profiles and competences and to assess their suitability (or not) for the labor market, but are also useful to employers when defining criteria for professional performance in a job, or to academia when assessing training needs and drawing up their curricula.

Competence referentials have been particularly used in the field of Information-Documentation. As far as a comparison at the level of the traditional professions domain is concerned, it is noted that they are used especially by librarians and documentalists, what is visible in the research results about their use by professionals. Archivists, on the other hand, use these tools less and their associations prefer to identify the competences and skills of their professional area, without establishing a broader relationship with the ID area.

As a result of this research, the importance of including other competences of ID professionals in the referentials is affirmed, with the awareness that many of the competences considered traditional have continuity in organizations. This exploratory study revealed that the identification and updating of competences is a time-consuming work, which requires a wide collaboration of professionals from different areas and attention to both national and international realities. In order to draw up a complete synthesis, the continuation of this research should, in the future, carry out interviews with professionals, training organizations (universities and polytechnics), professional ID associations, and others involved in the field.

In addition to the essential technical competences, information professionals need to have other competences that are shared by professionals from other areas, such as Marketing, Leadership and Project Management, Design, among others. Having multidisciplinary competences is a requirement of contemporary society, which can be met by including professionals from various disciplinary areas in an institution, or it can be a competence required of each professional who must enrich their curriculum throughout their lives with other knowledge. In the literature review, a requirement for

IPs was detected in the sense of technical learning related to artificial intelligence, robotics, etc. The development of technological skills is a requirement in any profession, also for IPs who should learn to use the new technologies of the 21st century.

Hybrid curricula are being valued in information units and all over the world, academic training is aware of this situation, allowing postgraduate or master specializations, and even continuing training, including individuals with different professional profiles. Interpersonal skills are vital for professional success and for the development of the profession. Although many authors agree that soft skills are vague or immeasurable, they are still desired or required by managers and managers of institutions. They are referenced in scientific articles, but little mentioned in the ID competences referentials of professional associations and in fundamental referentials such as ER or RIM. These competences are currently gaining ground in the professional world, alongside other types of competences, and are those related to critical thinking, initiative, adaptability, flexibility, creativity, innovation and problem solving, empathy, effective oral and written communication, relationship building, teamwork, collaboration, communication between different individuals, personal action with ethics. In short, it is the increasing valorization of emotional intelligence in the exercise of the profession.

The competences associated with literacy, such as learning to learn, mobilizing strategies to search, process, systematize, organize and evaluate various types and sources of information, to transform it into knowledge, are competences specific to IP and should also be developed by the professional himself with the users of the services, increasing their awareness of the good use of these skills.

Also, related to this type of social competences, many of the authors of the bibliography mention the competences of relationship with the user and with the communities that the information service serves. The technical competences of the ID area are not enough. In addition to the field of information management, librarianship, archival science, digital curation, etc., there are

competences related to interaction with the user or the community as a whole, in order to achieve equitable and diverse relations with all, including minorities. They also mention the competences associated with public service and communication and collaboration with the administration and management of the service where the profession is practiced.

Finally, the literature review emphasizes not the inclusion of new competences in the referentials for IPs, but the need to mention competences that are transversal competences. Information competences, in Information and Communication Technologies, which refer to the skills and knowledge needed to find, evaluate, use and communicate information effectively and ethically, are mentioned by the referentials and are now valued together with other competences at a different level. As mentioned, interpersonal and social competences are central, as are learning competences, technological competences and competences specific to other subject areas.

References

American Library Association. (2021). Skills for 21st Century Librarians.

<http://www.ala.org/tools/programming/21stcenturyskills>

ARMA International. (2017). Records and Information Management: Core Competencies. 2^a edição. <https://docplayer.net/64241785-Records-and-information-management-core-competencies-2nd-edition.html>

Association des Archivistes Français. (2016). Référentiel métiers: la profession d'archiviste ou les métiers des archives. (2^a édition). https://www.archivistes.org/IMG/pdf/referentiel_mep_vdef-2.pdf?6146/5f6284800495fe98fb63f72a4a203b4931851abd2628242667124c6637fedd23 Z

Association des Professionnels de l'Information et de la Documentation (ADBS). (2007). Référentiel des métiers et des fonctions de l'information-documentation. ADBS.

Association des Professionnels de l'Information et de la Documentation (ADBS). (2020). Projet de Refontes des référentiels métiers-compétences. <https://www.adbs.fr/groupe/adbs-site-internet/communiqu-287461>

Ayinde, L., & Kirkwood, H. (2020). Rethinking the roles and skills of information professionals in the 4th Industrial Revolution. *Business Information Review*, 34(4), 142-153.

- Bibliothèque Nationale de France (BnF). (2012). Référentiel des emplois et des compétences. [https://emploi.bnf.fr/DRH/emploi.nsf/IXURL02/P2014000388_Le-referentiel-des-emplois/\\$FILE/referentiel_emplois_compétences.pdf](https://emploi.bnf.fr/DRH/emploi.nsf/IXURL02/P2014000388_Le-referentiel-des-emplois/$FILE/referentiel_emplois_compétences.pdf)
- Canadian Association of Research Libraries (CARL), & CARL Competencies Working Group. (2020). Competencies for Librarians in Canadian Research Libraries. <https://www.carl-abrc.ca/wp-content/uploads/2020/09/Competencies-Final-EN-1-2.pdf>
- Carter, D. (2016). Demonstrating a commercial mindset: The 2016 Business Information Survey. *Business Information Review* 33(1): 9–18. DOI: 10.1177/0266382116634914
- Chartered Institute of Library and Information Professionals (CILIP). (2021). The Professional Knowledge and Skills base. CILIP. <https://www.cilip.org.uk/page/PKSB>
- European Council of Information Associations (ECIA). (2005). Euro-Referencial I-D. INCITE.
- Federación Española de Sociedades de Archivística, Biblioteconomía, Documentación y Museística (FESABID). (2018). Nuevos roles. <https://www.fesabid.org/en-accion/nuevos-roles/>
- Fernandes, M., & Ochôa, P. (2021). Contributos para o perfil das gestoras e curadoras de informação em Portugal. *Páginas a&b: Arquivos e Bibliotecas*, 121–130. <https://ojs.letras.up.pt/index.php/paginasueb/article/view/10213>
- Fraser-Arnott, M. (2017). Competencies for information specialists in emerging roles. *Library Management*, 38(1), 65–76. <https://doi.org/10.1108/LM-09-2016-0074>
- Freitas, C.V. de. (2017). O futuro é hoje: perfis e competências dos profissionais da informação para a curadoria digital. In *Encontro Curadoria Digital – Estratégias e experiências: atas*. Instituto de História Contemporânea da FCSH-UNL. https://estudogeral.uc.pt/bitstream/10316/45735/1/Artigo_Curadoria%20Digital_2017.pdf
- International Council On Archives. (2011). Shape your own archivist: developing a competency model: a guidance. International Council On Archives. https://www.ica.org/sites/default/files/SPA_EURBICA_2011_07_25_%20Competencies-hanbook_EN.pdf
- International Federation of Library Associations and Institutions (IFLA). (2022). IFLA Trend Report 2021 Update. <https://repository.ifla.org/handle/123456789/1830>
- Koya, U., & Gopakumar, V. (2018). Information technology skills required for library professionals in digital era: an introspection. *International Journal of Library and Information Studies*, 8(1) Jan-Mar. <https://www.ijlis.org/articles/information-technology-skills-required-for-library-professionals-in-digital-era-an-introspection.pdf>
- Lowry, L. (2022). Soft skills for technical services professionals in the academic library. *Library Resources & Technical Services*, 66 (3), 116-129. <https://doi.org/10.5860/lrts.66n3.115>

Mann, L. (2018). Making a Place for Makerspaces in Information Literacy. *Reference & User Services Quarterly*, 58(2), 82–86. <https://journals.ala.org/index.php/rusq/article/view/6927/9380>

Observatório da Profissão de Informação-Documentação. (2006). A Imagem das competências dos profissionais de informação-documentação: relatório. OP I-D. <http://apdis.pt/newwebsite/wp-content/uploads/2015/02/REL-ID-2006.pdf>

Ochôa, P. (2018). Crenças epistemológicas e evolução da profissão de Informação-Documentação. In BAD (ed), *Actas do 13º Congresso Nacional de Bibliotecários, Arquivistas e Documentalistas*. <https://publicacoes.bad.pt/revistas/index.php/congressosbad/article/view/1800>

Ochôa, P., & Pinto, L. G. (2019). Debater a visão europeia sobre competências de informação-documentação: perspectivas, estratégias e posicionamentos. *Ciência da Informação*, 48(2), 25–40. <http://revista.ibict.br/ciinf/article/view/4695/4165>

Ministerio de Educacion, Cultura y Deporte Espana. Consejo de Cooperación Bibliotecaria (2019). Perfiles profesionales del sistema bibliotecario Español: fichas de caracterización. https://www.fesabid.org/wp-content/uploads/2021/05/Perfiles_profesionales_del_sistema_bibliotecario_e.pdf

Ministère de l'Enseignement Supérieur et de la Recherche de France. (2008). *Bibliofil': le référentiel de la filière bibliothèque*. <https://www.enseignementsup-recherche.gouv.fr/fr/bibliofil-le-referentiel-de-la-filiere-bibliotheque-45678>

Reys, A., Barreto, C., Cerdeirinha, J., Guedes, M. S., Teixeira, P., & Néó, S. (2017). Gestor e curadoria da informação: tendências, perfis e estratégias de reconhecimento. *Páginas a&b : Arquivos e Bibliotecas*, 3(7), 3-15. <https://ojs.letras.up.pt/index.php/paginasaeb/article/view/2835>

San José State University. School of Information. (2022). *MLIS skills at work: A Snapshot of Job Postings*. https://ischool.sjsu.edu/sites/main/files/file-attachments/career_trends.pdf?1655307854

Schmidt, B., Calarco, P., Kuchma, I., & Shearer, K. (2016). Time to adopt: librarians' new skills and competency profiles. In: Loizides, F., & Schmidt, B. (Eds.). *Positioning and power in academic publishing: players, agents and agendas*, pp.1-8. <https://wiki.lib.sun.ac.za/images/7/79/Elpub-2016.pdf>

Schwartz, M. (2016). Top skills for tomorrow's librarians. *Library Journal*. 9 (March). <https://www.libraryjournal.com/story/top-skills-for-tomorrows-librarians-careers-2016>

Society of American Archivists. (2011). Core Archival Knowledge. In *Guidelines for a Graduate Program in Archival Studies*. <https://www2.archivists.org/category/book-page-types/gpas-component/core-archival-knowledge>

Special Libraries Association (SLA). (2016). *Competencies for Information Professionals*. SLA. <https://www.sla.org/about-sla/competencies/communicating-competencies-information-professionals/>

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