

**Open Educational Resources and
Library & Information Science:
towards a common framework for
methodological approaches and technical solutions**

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OERs and their main characteristics

- **Open Educational Resources (OERs) are grey literature *par excellence*** because of their main features, which can explain their strong versatility and high granularity:
 - ***Openness***
 - ***Digital dimension***
 - ***Innovative approaches*** fostered by dominant constructivist and socio-constructivist paradigms and by the preferred teaching-learning methodologies entirely focused on **the learner**.
- Although strongly connected to Open Science (OS), OERs possess these features to a much greater extent.

OERs and Science landscape: a fruitful correlation

- **A fruitful comparison** can be made between the manifold constellation of **education and training** and the **scientific and scholarly community**, that is still, for the most part, Polanyi's and Merton's **autonomous *Republic of Science***, still today grounded in the traditional model.
- Despite the last profound changes, the **traditional model of Science and Scholarly Communication** is still **active today**:
 - *as a concrete system for controlling, validating and organizing important parts of the scholarly information and communication system*
 - *as a deep schema able to influence and shape approaches and behaviours of the R&D system's actors – individuals, communities, institutions...*
- Today the role of **research libraries and information specialists** is essential: **the only ones able to control and certify the quality of research products and results.**

LIS world between tradition and contemporary challenges

- The dissolution of traditional models for knowledge organization has considerably contributed to the LIS move towards extreme scientific specialization and growing professionalisation.
- **LIS knowledge and competences** have become **specific, precise and highly fragmented**, moving to *specialised knowledge clusters*, and to niches of *extreme professionalization*:
 - the most required – i.e. digital competences and web skills – are emphasized, because they are considered the most useful and important.
- Simultaneously, **LIS competences related to a critical use of information and scientific and methodological ones**:
 - **have lost awareness of their original identity**
 - have widely spread out over all the scientific-disciplinary sectors as **foundation of research activity**, merging with various knowledge and specific domains: this composite area is often a preliminary step for higher education programs - as *study skills, learning skills, research skills, research method skills, academic skills, scientific skills, scientific inquiry skills...*

Seeking for a new LIS identity

- More generally, with regard to the **critical use of information**, LIS competences have become **core transversal skills** in the current knowledge societies:
 - Barack Obama declared October 2009 as National **Information Literacy** Awareness month in the USA
 - *Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning (Digital competence & Learning to learn)*
 - *Council Recommendation of 22 May 2018 on key competences for lifelong learning (Digital competence)*
- The **two** currently **most widespread** and most successful **knowledge and competence areas** – the first, aimed at **science education** and at acquiring study and **methods skills**, and the second, including **transversal competences** centred on information use and digital dimension – **don't explicitly show their common LIS ancestry.**

Seeking for a new LIS identity

- However, **contemporary science has recovered a broad and unitary epistemological and methodological perspective** and posed new challenges, to which only a LIS community very aware and stable from the identity point of view could successfully respond.
- *Current science needs a **worthy scholarly information and communication system**, able to fulfil its ambitious expectations.*
- **Research libraries and information specialists** can play a **strategic role**, capitalising both traditional and new knowledge, skills and expertise:
*they can regain a **strong common identity**, no longer through a top-down approach, but **through a largely bottom-up process**, thanks to the gradual confident accession of increasing LIS segments.*

The Open Education political strategic perspective and its implementation in Europe

- Most studies have deeply analysed national educational and organisational contexts. They also provide political and strategic recommendations and concrete proposals aimed at solving complex problems inherent in the OE initiatives.
- From the analysis carried out, it emerged that the state-of-the-art OE initiatives show **significant differences from country to country**.
- In the most EU countries – among which Italy too – **the OE potential is not yet fully exploited**.
- The lack of support from the central government, i.e. the lack of national plans for structural and implementation interventions at the systemic level, is the main cause of the gap.
- Moreover, there are often critical factors related to single national and local institutions. Among them, an insufficient spread of management and organizational culture applied to educational contexts and, more generally, a limited inclination towards innovation stand out.

The Open Education political strategic perspective and its implementation in Europe

- **The main problems** concern: the planning of initiatives and economic and financial interventions; the development of strategies and guidelines for implementation; the implementation of operational programs and the management of interactions between different public actors.
- Identifying and structuring all the problems is definitely not a simple matter and analyzing multiple cause-effect relationships among them is even more complex.
- In order to formulate effective intervention plans it is essential to identify the problems, which constitute the *core causes* of the critical situation in the different EU countries.
- For these reasons, in recent years the European institutions policies and strategies for the OE have headed towards **a systems approach**.
- Nevertheless, it is hard to encourage and achieve the same level of real change within the different national systems, because ***the capacity to manage OE initiatives corresponds to the actual capacity to innovate***, which shows many differences among countries.
- The ability to innovate also implies a greater spread of **organizational and management culture**.

The Open Educational initiatives in the LIS field

The advantages:

- teaching innovation and internationalization;
- visibility and enhancement of the teachers' and institutions' skills and knowledge;
- cost reduction;
- greater flexibility of the didactic proposal and better usability of contents and services;
- improvement of interactions between the different competences in the LIS context, and a consequent increase in the overall volume of knowledge;
- improvement of consulting services to support researchers' activities, especially in the context of project initiatives that involve research data and information management;
- increase and diversification of learners and the opening towards other learning communities different from the traditional ones;
- growth of interactions and exchanges with other teaching communities (other institutions, companies, professionals, etc.).

The Open Educational initiatives in the LIS field

The problems:

- insufficient integration of the policies aimed at developing multi-level governance systems to support OE initiatives, with consequent shortcomings in:
 - effective and flexible business models capable of ensuring the sustainability of OE initiatives;
 - analysis of the educational needs of the R&D community and, more generally, of any other beneficiaries;
 - executive level planning and management;
 - support and training for teachers;
 - incentive and recognition systems for individuals and groups;
 - unique guidelines and shared quality criteria;
 - transparency and quality of OERs creation, delivery, use, integration / enrichment and reuse processes;
 - political and organizational measures to encourage OERs reuse and sharing;
 - transparent monitoring and cost-benefit assessment systems of the initiatives' overall impact;
 - integration of technological platforms dedicated to managing OE initiatives.

The Open Educational initiatives in the LIS field

- ***References to the strategic context:*** due to the chosen field of intervention, it is essential to consider not only the strategies, recommendations and programmatic measures defined by the European institutions in the field of **Open Education**, but also the strategic and programmatic framework defined by the same institutions in the field of **Open Science**. Both European frameworks constitute the "ontological" and "conceptual" framework to which to refer, and, at the same time, the strategic direction framework towards which to guide OE initiatives, anchoring them concretely in the R&D context.
- ***Methodological and management references:*** keeping in mind these high-profile references, let's try to think of an OE initiative in the LIS field - managed through an institutional partnership - as a complex set of activities organized to achieve a single, non-repetitive goal. This set includes the planning of the initiative, the development and control of the individual activities that make it up, the constraints (human resources, costs, time, quality), the intermediate results and the final results. All of this corresponds to a **definition of "project"** typical of the Project Management (PM) theories and methodologies.
- ***Increase knowledge on Project Management (PM) methodologies can help make OE initiatives more effective.***

Project management, an opportunity for the LIS world

- The latest PM theories link the concepts of “*change*” and “*networking*” to the term “project”.
- Also for the OE initiatives, *designing* implies “*innovation*” and “*inter-institutional, inter-disciplinary, inter-functional collaboration*”, with a marked focus on coordination and on aspects such as: **sharing, communicating and motivating the key actors and the organizations which they belong to.**
- Among other things, the approach to networking is necessary to support the medium- / long-term innovation trends in research libraries.

What PM methods could be concretely applicable to the design of OE initiatives on LIS topic in the context of academic and research institutions?

- Some of the most common PM methodologies are: Project Cycle Management (PCM), Logical Framework Approach (LFA), Goal Oriented Project Planning (GOPP), Total Quality Systems, Project Management Body of Knowledge (PMBOK), PProjects IN Controlled Environments method, version 2 of 2009 (PRINCE2-2009), etc.

Project management, an opportunity for the LIS world

- A “project” can also be described as a ***complex set of adaptive actions and interactions***: a project should be able to adapt and change itself according to the specific context of reference, the experience gained and the changes that gradually occur during its execution.
- The most complex work consists of the construction of a ***model conceived according to the specificities of the individual project***, because each project is a *unicum*.
- **The model is the idea of how the project should take place**. It is the output of the "Analysis and definition of requirements" phase (architectural phase) and constitutes the basis for the generation of the "Project Plan", which defines its operational translation.
- The quality of the project model highly depends on the number of variables analysed to define its architecture.
- Therefore, it would be necessary to make use of the ***support of knowledge and skills*** capable of "rethinking" the project (analysis of problems / constraints / conditionings) and able to choose methods and tools that best meet its specific needs, drawing on a great variety of methodologies and solution tools (adaptive pluralistic approach).

Methodology and IT tools choice

- Methodology choice should be done based on the complexity and lifespan of the project (agile methods for simple and short-lived projects, more structured and standardised methods for long-term complex projects).
- Appropriate tools should be leveraged to support project planning/monitoring/accounting and OER access and preservation (GANTT production and updating; deliverable verification and approval; human, financial and material resource allocation; e-learning platforms).

Service quality

- Service level definition and monitoring
- Persistent identification of resources
- Adoption of standard digital preservation criteria in order to ensure, integrity, traceability and long term access to OER

Project Management to support OE initiatives

- **Finally, we believe that it could be helpful to promote OE initiatives aimed at providing LIS key actors with a fair amount of knowledge on PM principles, methods and techniques.**
- It could favour the use of a *common language* to discuss crosscutting topics in all the OE core processes within the R&D system, improving the dialogue among library experts, computer technicians, researchers and between all these actors and the institutions
- The widespread application of PM methods and techniques would allow to effectively *link high-level strategies to operational planning of OE initiatives.*