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**LibrarIN [101061516]: Value Co-creation and Social Innovation for a new Generation of European Libraries**

# D3.7 Living labs for co-creation and co-innovation v1.0

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# Executive Summary

***Background***

This report is *Deliverable 3.7 Living labs for co-creation and co-innovation v1.0* of the Horizon Europe LibrarIN project (Value Co-creation and Social Innovation for a new Generation of European Libraries). It reports *Task 3.3 Living labs for co-creation and co-innovation* of *Work Package 3 Thematic and empirical work in selected co-creation areas* exploring how libraries develop experimental settings for co-creation and co-innovation. This first deliverable provides a review of the literature about libraries as living labs, i.e. as experimental settings applying participative methods of co-creation and co-innovation for public service/library innovation. Thus, we focus libraries *as* living labs settings rather than libraries *with* living labs. Different concepts, theories and empirical examples of innovation and living lab activities in public libraries found in the literature are described.

***Purpose***

The purpose of the report is to answer the following research question: ***How are innovation and participatory methods applied and understood in the context of public libraries and how does this influence opportunities and limitations relative to co-creation and co-innovation of library services and other community services?*** Moreover, the literature review will inform the development of case selection criteria for the forthcoming case studies of the work task. An answer to the research question is provided in the concluding section of the report.

***Method***

The report is based on a systematized literature review of scientific articles. The review strategy draws on the logic of the PRISMA model in the selection and screening of the literature.

***Overview of findings***

The key results of the literature review are:

- The term "living lab" is not used to a great extent in the reviewed literature. However, the library is often described as an innovative and experimental setting for developing a broad range of new services. The construct of living lab is instead identified as a latent construct and theme in the literature.
- The literature discusses the purpose of the library in terms of its boundaries, legitimacy and types of libraries. Overall, we interpret this as implicit discussions of the "public value" of libraries.
- Libraries, as physical spaces, undergo a conceptual transformation that enable them to deliver three interconnected types of services: 'space-place services,' 'processional learning services' and "democratic engagement services'. As such the basis for further development of co-creation and co-innovation are highly present.
- The library is evolving from a space with distinct roles for patrons and librarians to a more dynamic and collaborative environment. This implies that librarians become library professionals and that the development of a new skills-sets is an issue.

***Recommendations***

The report suggests that there is a need to better understand the following four issues through case studies: 1) the role of the public library in terms of what public value it claims to create; 2) competencies in terms of how skills are changed/enhanced on the part of library professionals and users; 3) innovation in terms of what forms of innovation processes are important and the extent to which they are participatory or not; and 4) co-creation in terms of whether and how public libraries are becoming oriented towards co-creating value of/with users.

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# List of Terms and Abbreviations

| Abbreviation | Definition |
|---|---|
| **PRISMA** | Preferred Reporting Items for Systematic Reviews and Meta-Analyses |
| **WP** | Work Package |

# 1 Introduction

This report is *Deliverable 3.7 Living labs for co-creation and co-innovation v1.0* of the Horizon Europe LibrarIN project. It reports *Task 3.3. 3 Living labs for co-creation and co-innovation* of *WP3 Thematic and empirical work in selected co-creation areas*. Its aim is to explore how libraries develop experimental settings for co-creation and co-innovation. This first deliverable provides a review of the mostly academic literature about libraries as experimental settings applying participative methods of co-creation and co-innovation of library services. We use the construct of living lab as an analytical lens to characterize libraries as living labs, i.e. we explore, on the basis of the literature reviewed, whether and how some libraries appear to be transforming the library space into an infrastructure for experimental innovation that shares many of the characteristics of living labs. Different concepts, theories and empirical examples of this infrastructure for innovation found in the literature are described.

The approach utilized is a systematized literature review of mostly academic papers (Grant & Booth, 2009) incorporating elements of a systematic literature review, including the PRISMA diagram during the search phase (Moher et al., 2009), but the review does not fully encompass the comprehensive extent of a systematic review.

The analytical findings of the review will form the basis for the proposed case selection criteria and provide an initial set of questions, facilitating further qualified empirical studies of libraries as living lab.

## 1.1 Purpose and Scope

The purpose of the study is to explore different concepts, theories and empirical examples of innovation and living lab activities in public libraries and their role in co-creation and co-innovation of library services. The review aims to highlight how such approaches can work as participatory and open structures for co-creation and co-innovation in the context of public libraries and as a basis for public value creation.

## 1.2 Approach for Work Package and Relation to other Work Packages and Deliverables

*WP3 Thematic and empirical work in selected co-creation areas* provides thematic and empirical work in three selected co-creation areas: 1) Digital transformation and ICT (Task 3.1); 2) Social entrepreneurship, public-private networks and social innovation (Task 3.2); and 3) Living labs for co-creation and co-innovation (Task 3.3).

The three reviews of each work tasks, and the related work in identifying key terms and themes, have informed the dialogue across work packages relative to recruiting for the stakeholder panel (WP5 Stakeholders' co-design and validation), conceptual clarifications (WP2 Conceptual framework of participatory management and sustainable growth) and an on-going awareness on how to build a strong foundation for mixed methods studies, i.e., how *WP3 Thematic and empirical work in selected co-creation areas* and *WP4 Measuring and monitoring co-creation in EU public libraries* can prospectively enrich each other.

## 1.3 Structure of the Deliverable

This document is comprised of the following chapters:

- Chapter 1 presents an introduction to the document;
- Chapter 2 presents the background and research question of the review;
- Chapter 3 presents the methodology;
- Chapter 4 presents the analytical findings;
- Chapter 5 concludes the deliverable;
- Chapter 6 presents future research of the work task: case selection criteria and initial questions for the case study research.

## 1.4 Note on the Living lab concept

Living lab as concept is often juxtaposed with or related to *innovation lab*. In the literature, both living labs and innovation labs are seen as practice-driven concepts that emerged at the beginning of the millennium as ways of ensuring collaborative innovation in the public sector. However, the main distinctions between the two concepts are their different antecedents and that living labs have a broader application across sectors, whereas innovation labs are often concerned with the public or the third sector. Moreover, Schuurman and Tõnurist (2017) argue that innovation labs and living labs operate in different phases of the innovation process: innovation labs are seen as initiators of innovation and living labs as executors of innovation (Schuurman & Tõnurist, 2017). However, this is not consistent with all other approaches (cf. Björgvinsson et al., 2010; Nesti, 2017).

The interrelatedness between the two concepts has been taken into account throughout the review, so despite the main focus being on living labs, initiatives labelled innovation labs or organizational forms not applying either of the concepts have not been excluded.

# 2 Background, definitions and research question

## 2.1 Background

The concept of Living lab is *not* a widely used approach to conceptualize and understand innovative activities and approaches in the context of public libraires. However, there is, in practice, a vast amount of co-innovation and co-creation going on in libraries, which is why there is a need for a refined conceptual framework to be able to analyze and further develop public sector innovation, co-creation of innovation and public value creation within the library sector.

## 2.2 Definitions

The following is a brief description of the public library and the Living Lab concept, its antecedents and its entry into the public sector innovation concept.

**Public libraries**

Public libraries are local information centers that make all kinds of knowledge and information readily available to their users, free of charge. The IFLA-UNESCO Public Library Manifesto 2022 explains the current role of the public library as "providing universal access to and enabling meaningful use of information for all people" (Table 1).

**Table 1: IFLA-UNESCO Public Library Manifesto 2022**

| |
|---|
| The public library is the local centre of information, making all kinds of knowledge and information readily available to its users. It is an essential component of knowledge societies, continuously adapting to new means of communication to fulfil their mandate of providing universal access to and enabling meaningful use of information for all people. It provides publicly accessible space for the production of knowledge, sharing and exchange of information and culture, and promotion of civic engagement. Libraries are creators of community, proactively reaching out to new audiences and using effective listening to support the design of services that meet local needs and contribute to improving quality of life. The public has trust in their library, and in return, it is the ambition of the public library to proactively keep their community informed and aware. The services of the public library are provided on the basis of equality of access for all, regardless of age, ethnicity, gender, religion, nationality, language, social status, and any other characteristic. Specific services and materials must be provided for those users who cannot, for whatever reason, use the regular services and materials, for example linguistic minorities, people with disabilities, poor digital or computer skills, poor literacy abilities or people in hospital or prison. All age groups must find material relevant to their needs. Collections and services have to include all types of appropriate media and modern technologies as well as traditional materials. High quality, relevance to local needs and conditions, and reflective of the language and cultural diversity of the community are fundamental. Material must reflect current trends and the evolution of society, as well as the memory of human endeavour and imagination. Collections and services should not be subject to any form of ideological, political or religious censorship, nor commercial pressures. |

The 2022 Manifesto quoted above emphasizes the role of public libraries in building communities, meeting local needs and supporting quality of life. It is more holistic than the previous version from 1994. The multifaceted role libraries are expected to play includes providing physical and digital spaces to proactively support citizens in the context of a changing community and society. Digital transformation has meant that people have direct access to information and knowledge from their homes. The role of the library must therefore evolve in line with societal changes.

This approach to public libraries also reflects the evolution of public libraries from professionally driven institutions with the public purpose of providing information and books to the public, to service and community spaces with a broader but more diffuse portfolio of tasks (Moring and Schreiber 2022; Hansson et al. 2015). Some scholars emphasize that libraries have evolved into 'community hubs' (Johnston et al. 2022), where local residents and other local stakeholders can convene, converse and collaborate and tackle communal or personal issues and obstacles.

Therefore, while the rationale of libraries has expanded and the need for it obvious, libraries can still deliver benefits and advantages for individuals and communities. A 2023 report from the UK predicts that English libraries could potentially generate £3.4 billion p.a. by offering services that bolster digital inclusion, health, wellbeing, independent living, and children's literacy. The report highlights that libraries provide comprehensive services that are adaptable and flexible to the community's needs, thereby decreasing pressure on other public services (Gordon et al., 2023).

**Living lab as phenomenon**

Historically, the term living lab originated in information and communication technology studies and later found its way into the broader field of products and services innovation (Følstad, 2008). From the outset, Living Labs have been a tool and approach for involving stakeholders in innovation processes, with a particular focus on creating testbeds. As such, Living Labs are conceptually based on a triple helix model of innovation, where stakeholders from different sectors inform and contribute to the innovation process, emphasising real ('living') contexts as the starting point for development. (Gascó, 2017). The use of living labs for public innovation has been extensively explored in a previous Horizon Europe project, showing how public innovation uses different formats of living labs for processual learning, creating spaces for innovation and democratic engagement (see Fuglsang & Hansen, 2022). In this report we build on this framework and explore it in relation to public libraries.

**Living lab in a public sector context**

The report takes the subsequent definition of living lab as point of departure:

> '*Living lab is a conceptualisation of multi-contextual and cross-sectorial experimental user-centric innovation processes with the aim of developing and/or improving welfare products, democratic engagement, services or processes based on the application of co-creation methodologies depicted by trans-disciplinarity*' (Fuglsang & Hansen, 2019, p. 45)

Following the living lab definition, it is important to stress that the concept of living lab in a public sector context refers to both an innovation mindset, a concrete innovation approach and an analytical lens to better understand innovation and co-creation processes. The current main constitutive factors are 1) an openness to deliberate experimentation, 2) disparities in settings (schools, hospitals, libraries, communities, etc.) and 3) the involvement of different actors present at the same time.

In order to further distinguish the concept of living labs within the public sector, and as something slightly different from living labs in the private sector, a previous study examined several contexts of living labs in public organisations (Fuglsang & Hansen, 2022). The study showed that living lab contexts

were used for learning about innovation, for engaging stakeholders in innovation activities, and for democratic citizen engagement. The outcomes were both small incremental innovations integrated into the organisation, systemic innovations undertaken as a joint task, and radical proto-typing of new innovations by engaging citizens in experimental innovation processes.

Innovation in the public sector, and particularly within a living lab logic, aims to create public value. The concept of public value has different theoretical trajectories, but in the context of this report we build on the understanding advocated by Benington (2011), who sees public value as encompassing both *what is the public value* and *what adds value to the public sphere*. The implication is that public value is a contested practice referring to what is currently valued by patrons, citizens and communities, but also to what will be of value to the public in a long-term perspective (Benington, 2015:31).

## 2.3 Research question

Based on the mentioned scope and purpose, the following research question has guided the literature review, analysis and synthesis:

*How are innovation and participatory methods applied and understood in the context of public libraries and how does this influence opportunities and limitations relative to co-creation and co-innovation of library services and other community services?*

Co-innovation and co-creation are both concepts that refer to open innovation practices (Fuglsang, 2008) that involve stakeholders such as citizens, patrons and organizations in value creation. As innovation in the public sector context addresses public value, i.e. value for the public and society at large, the main aim of the study is twofold: 1) to understand the role of different actors in creating, initiating and facilitating innovative activities and 2) to analyze how these are conceptualized and presented in the research literature.

# 3 Methodology

To map innovation and participatory methods applied and understood in the context of public libraries a classical systematized literature review has been conducted. The advantage of a classical literature review is that it captures scientific knowledge about the transformation of the library space, but it does not take into account the fact that the library sector has a long-standing and strong professional culture that has led to intense shared reflexive activity. Many resources other than research could have enriched the analysis. We will therefore include a section on the professional culture of the library sector in the next version of the report - this could also be fruitful for the forthcoming case study analyses.

**A systematized literature review**

Moher et al. (2009) propose a PRISMA model as a basis for a systematic review strategy. We use this approach for selecting and screening the literature. The PRISMA model is based on a checklist for reporting the review together with a flow diagram showing the selection process of the included literature. The review strategy supports the mapping of relevant literature, the identification of research gaps and the clarification of contributions and findings in the existing literature base (Moher et al., 2009). However, in this report we used the approach as a basis for a systematized analysis of themes in the reviewed literature. Based on the research question, and in collaboration with a professional librarian, the a search string was developed and used for searching in two databases: EBSCOhost and Scopus. The search string is presented below:

innovation OR 'participatory method*' OR 'living lab*' OR 'innovation method*' OR participation OR 'co-creation' OR 'innovation lab*'
AND
'public librar*' OR 'university librar*' OR 'national librar*' OR 'community librar*'

In the literature review, we avoided terms most commonly associated with library digitalization, such as citizen science and crowdsourcing, both of which are important to libraries and represent ways of engaging citizens in library development (digital transformations are addressed in D3.1). For example, libraries have used crowdsourcing to engage citizens in correcting language in newspapers digitalized by optical recognition or transcribing handwriting (Severson & Sauvé, 2019). By means of crowdsourcing, citizens are contributing work to the library. However, what we want to capture in this review is how public library spaces function as meeting places and experimental sites for engaging citizens in collaborative activities. This limitation was made not only for pragmatic reasons, but also to focus on the role of libraries as a particular physical place, similar to the town hall or a market place, where people meet to engage with societal issues.

The search in the two databases was conducted on 21 February 2023. We limited the search to English peer-reviewed articles from academic journals and books. We anticipate a strong contribution from the French and Spanish-speaking library communities, but the authors are limited to English skills.

Still, the review revealed that the articles based on empirical case studies are geographically diverse – see table below.

**Table 2: Overview of geographical context for cases referred to in reviewed articles**

| Geographical context | Number of cases |
|---|---|
| China | 2 |
| Norway | 2 |
| New Zealand | 1 |
| Australia | 2 |
| Spain | 2 |
| UK | 3 |
| France | 1 |
| Sweden | 2 |
| Denmark | 3 |
| US | 4 |
| Latvia | 1 |
| Germany | 1 |
| Hungary | 1 |
| Canada | 2 |
| Romania | 1 |

We initially captured 5.858 articles (Figure 1). We then screened the sample to exclude irrelevant articles. As the main focus of the review was on the direct involvement of citizens and users, cases of co-innovation and co-creation, the creation of public value and the role of public libraries, the general exclusion criteria for the screening were as follows:

- Articles with a main focus on digitalization and software development
- Articles mainly focusing on academic libraries
- Instruction-based research and recommendations (with no citizens in co-development)
- Evaluation and simulation studies
- Medico-oriented articles

Moreover, early in the process it was established that open innovation processes within public libraries were linked to an overall increased focus on co-creation and co-innovation in the public sector following the shift from new public administration to new public governance – partly triggered by the financial crisis in 2007. As a result articles before 2008 were also excluded. Lastly, few of the articles assessed for eligibility were not available or turned out not to be in English.

The final body of literature included in the qualitative synthesis counts 39 articles. See Figure 2 for an overview of the selection and screening process.

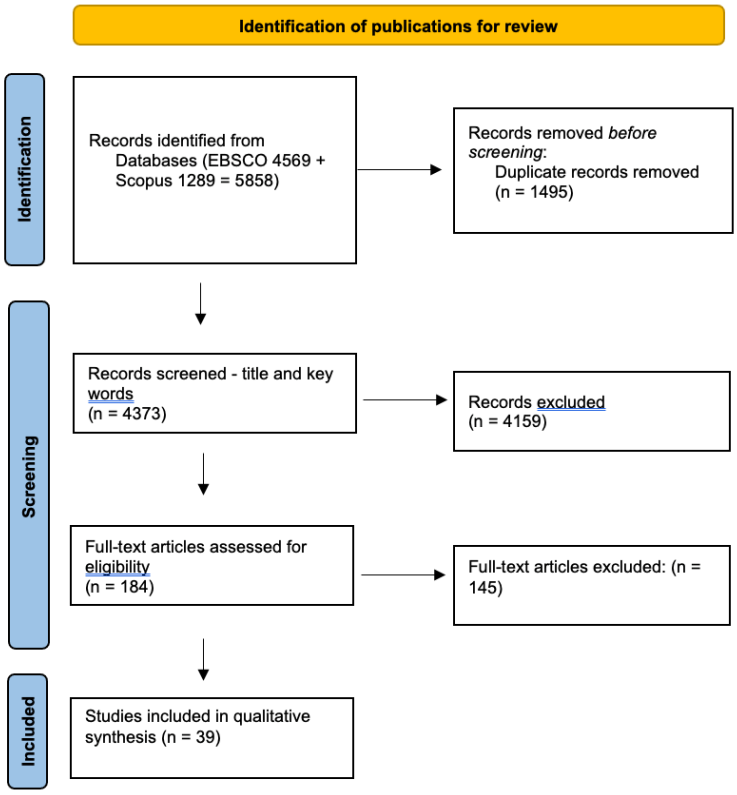


Figure 1: PRISMA flow diagram

## 3.1 Data analysis and coding

To share and map the key findings and content of each scientific paper, the research team used an extraction sheet – developed and refined at the beginning of the process. Based on this, an interpretative approach was taken to group the articles into a number of themes. The coding of the themes was discussed between the two lead researchers and then validated through an iterative process during several weeks of analysis. This became the starting point for the final synthesis; looking at the data through the lens of the living lab logic of public sector innovation detected in previous studies (e.g., Fuglsang & Hansen, 2022, see section 2.2). In this way, the data analysis is both inductive and deductive. Inductive, as the first and second order categories were developed based on the focus and language of the articles, and deductive, as the final selection of analytical themes applied the living lab framework of public sector innovation from previous studies.

# 4 Findings

## 4.1 Analytical themes: The library as a living lab

When we conducted a full-text search of the 39 selected articles in our sample, we found that the concepts of co-creation, public value and living lab were very rarely mentioned (Table 3).

Table 3: Word count of core constructs in the review

| | Number of mentions | Number of articles |
|---|---|---|
| Living lab | 354 | 2 |
| Innovation lab | 0 | 0 |
| Innovation | 1080 | 27 |
| Co-creation / cocreation | 165 | 9 |
| Public value | 75 | 5 |
| Particip* | 1406 | 37 |
| Democra* | 227 | 27 |

The term "living lab" is used only in two articles. Hernández-Pérez et al. (2022), based on a case study of a library living lab, argue that the library living lab is a socio-technical infrastructure that "transforms the library space into a place where multiple stakeholders, and especially public library users, meet together and are invited to participate in the innovation process of defining potential real services, projects, or products which have an impact in the whole community. At the same time, the way in which this innovation process takes place transforms the social dynamics of the community in terms of social cohesion and community engagement" (Hernández-Pérez et al., 2022, p. 24).

"Public value" is used in five articles to denote the overall goal for public libraries (i.e. to create or co-create public value). One article is specifically about "Reinventing the public value of libraries." (Field & Tran, 2018). Field and Tran define public value "as the value that an organization contributes to society and the community in which they operate" (Field & Tran, 2018, p. 115). They argue that libraries are reframed as "vital components of a community's social and economic infrastructure that connects communities, and encourages and promotes life-long learning and development" (Field & Tran, 2018, p. 125)

Co-creation is mentioned in nine articles. It refers to a new role that library professionals need to undertake to align professional practices better with citizens' concerns. (Cigarini et al., 2021). One article explores "how co-creation may change the roles and relations between the library professional and citizens" (Moring & Schreiber, 2022, p. 1). Co-creation is applied in the context of exploring the changing roles of the library, particularly its approach to citizens, its role in innovation and the changing skills of library professionals.

The notions of innovation, participation and democracy are more prevalent in the different articles, but no clear approach to these concepts is developed. The mention of the constructs in the articles

reviewed suggests that innovation, participation and democracy are fundamental aspects of current library thinking and development.

While very few articles are thus dealing systematically with the concepts of innovation, co-creation, public value and living lab, these construct are still relevant and valid as s an analytical lens to describe an emerging new understanding of what the library should do. First, the reviewed literature clearly describe processes and changes of the library that are similar to, though not systematically described as, co-creation, co-innovation and the transformation of the library space into a living lab. Since there are many different models of these changes dependent on context, this transformation of the library space is, however, competitive and contested. Second, the public library has certain boundaries, strives for legitimacy and elaborates its typology as an infrastructure for citizens, to create outcomes in society which is similar to public value creation (Table 4). Thirdly, public libraries engage in innovation activities to co-create new services with citizens in order to align professional goals with citizens' concerns (Table 5).

Table 4: Public value creation of public libraries

| Public value creation as latent construct | Illustrations |
|---|---|
| Boundary | For example: Public libraries are for the common good as spaces enabling social interaction and cultural capital creation. |
| Legitimacy | For example: libraries foster cultural diversity. They are platforms of civic participation available to all. |
| Typology | For example: They become "social/cultural libraries" with broader scope for community engagement and involvement. |

Table 5: Service innovation of public libraries

| Innovation and co-creation themes | Illustrations |
|---|---|
| Space-place services | Libraries create new social-physical (representational and dominated) public spaces enabling people to meet and interact . |
| Processual learning services | Libraries create and co-create new services that enable people to pursue individual interest and enable them to live better lives. |
| Democratic engagement services | Libraries engage citizens in service development and develop smart citizens, enabling citizen participation in innovation, and providing an innovation environment for the library and citizens. |

To summarize, libraries as living labs address certain key features of public sector innovation such as providing infrastructure for appropriating, co-creating, co-researching and democratizing innovation. Libraries engage in boundary work (defining what they are), legitimacy work (remaining acceptable for citizens and policy-makers in terms of outcomes) and typology work (distinguishing different types, scopes of activities and methods).

The next section presents in more detail these findings.

## 4.2 Analytical themes: Public value creation of public libraries

***Boundary work***

As mentioned (see also Table 1) the public library sector has been subject to an acknowledged transformation towards emphasizing its role in building communities, meeting local needs and supporting quality of life (Caso, 2019; Cigarini et al., 2021; Lakind et al., 2019; Gasco-Hernandez et al., 2022). The implication of such transformation is that libraries turn from mainly delivering content to become learning facilitators, or as some argue, they move from being knowledge resources to support community needs and civic life (Gasco-Hernandez et al., 2022). This change in focus follows a general turn towards co-creation and innovation in the public sector, which is partly triggered by the financial crisis and increased digitalization.

Despite most literature being concerned with concrete case descriptions relative to these new roles and services, a number of articles seek to theorize 'public libraries'. Hernández-Pérez et al. (2022) argue for public libraries as boundary objects since they are seen as socio-technical infrastructure giving space for community members. Drawing on an example from a Spanish library with an integrated living lab they introduce the concept of library living labs (with reference to Vilariño et al., 2018): *The Library Living Lab is an open, participatory, and experiential space, fully integrated into the public library, where people, technology, and innovation meet and become drivers of social transformation* (Hernández-Pérez et al., 2022, p. 22). The social transformation is especially related to the library as a key actor in pushing digitalization and in the role as mediator of different perspectives and perceptions.

Hence, the aspect of libraries being boundary objects are related to an openness in regards to the understanding of 'library' itself; on the one hand it is open for interpretation as it represents different categories and meanings, and on the other hand the term is internationally recognized despite national differences (Hernández-Pérez et al., 2022). Down the same line Kine & Davidsone (2022) argue for libraries as a sort of hybrid organizations, resembling living organisms which is in a constant state of adaptation and change (Kine & Davidsone, 2022).

Another aspect of libraries as boundary objects is their historic role of preserving and being cultural heritage institutions. In most articles this is rather implicit, but a few make direct reference to the public library as 'the manager of a collective cultural treasure' (Crihana, 2018) or as a 'cultural icon' (Skot-Hansen et al., 2013). Also, some authors underscore how libraries can be seen as cultural intermediaries. They argue that the very ethos of the public library is social inclusiveness, why they are

central in creating cultural capital for e.g. disadvantaged citizen groups (Hodgetts et al., 2008; Lo et al., 2019). This is supported by Leorke and Wyatt (2018) who argue that libraries historically have played a central role in creating and sustaining a 'shared public culture'.

These new activities, collaborations and innovative initiatives seem to challenge the very content of what a library is, but still this overall discussion is not apparent in the literature. On the contrary, the literature reveals that even though the public library sector has been through, or are in the midst of, rethinking what the term public library refers back to, there is only few deeper discussions of what the implications of this is and if the term 'library' is still comprehensive. In sum, the term 'public library' is not challenged in literature, nor is the overall purpose of being a public institution offering access to knowledge and learning. A concern which might be related to the inherent openness towards diverse meaning-making processes and interpretations of what a public library 'consist of'. This leads to the greater issue of the legitimacy of public libraries.

***Legitimacy work***

The literature shows that across countries (worldwide) public libraries are in general innovative and quite experimental. Also, the literature reveals that many innovation activities are in fact based upon co-creation and co-innovation with both citizens, external organizations and public sector employees (Nicholson, 2019). Thus, it is not a question of whether public libraries engage in and trigger new initiatives, rather it is a question of how and in regards to legitimacy; why?

In continuation of the mentioned shift in service offerings, a number of articles are concerned with the raison d'être of public libraries (Delica & Elbeshausen, 2017; Lo et al., 2019). It seems as if there is an implicit or underlying discussion about how to preserve the central value offering; democratizing information and ensuring equal access to knowledge, while at the same time moving towards the new role for libraries (and their employees) as facilitators of learning and being a sort of backbone in community development (Hernández-Pérez et al., 2022; Kine & Davidsone, 2022; Crihana, 2018).

To exemplify, Crihana (2018) argues for: '*libraries to be considered as collective spaces for testing and validating innovative content co-creation solutions, in the spirit of fostering cultural diversity and preserving the immaterial patrimony of ethnicities'* (Crihana, 2018, p. 30).

Taking the perspective of librarians Kine and Davidsone (2022) add: '*From the point of view of librarians, libraries are an appropriate platform to implement various forms of civic participation. They ensure equal opportunities and access to library infrastructure and resources for any member of the society*' (Kine & Davidsone, 2022, p. 649).

In this manner the public library has become a public space for community value (co-)creation practices (Blewitt, 2012) or a sort of sophisticated 'community house'. Related, others emphasize public libraries as critical 'social' infrastructure since they are central in integrating immigrants and in ensuring citizen literacy in general (Delgado, 2023). These understandings are related to the perception that libraries create public value insofar they contribute to and with positive social, economic and environmental

outcomes (Field & Tran, 2018; Lo et al., 2019). Also, as the quote below stresses, public value is not only a here-and-now value, but is understood as long-term value creation.

*They (libraries) are vital components of a community's social and economic infrastructure that connects communities, and encourages and promotes life-long learning and development. Libraries everywhere must reinvent the way they think about their purpose so that they can create enduring public value for everyone* (Field & Tran, 2018, p. 127).

These examples from the literature furthermore underscore a general tendency; the literature is to a large degree characterized by positivity relative to the promises future libraries are understood to hold – as infrastructure of public value co-creation. But, there is little focus on the possibility for value co-destruction, neither regarding citizens, employees or society at large. Thus, the very legitimacy of public libraries lies to some degree in their *perceived* potential, since they as public institutions are still trying to find or develop a new 'public library' narrative. Being in this process, has led to a general lack of critical voices and discussions on possible downsides or negative consequences of the profound change in public library service offerings. To be able to raise such relevant questions, it thus seems appropriate to further explore different types and/or organizational forms of public libraires.

***Typology work***

Following the raison d´être of public libraries and their potential as boundary objects, there are in the literature attempts to create typologies to map their different roles and positions. At an overall societal level it is argued that public libraries are key in developing 'smart' cities, since they offer a platform for Quadruple helix model innovation to occur (Gasco-Hernandez et al., 2022; Hernández-Pérez et al., 2022). Quadruple helix innovation refers to a multi-stakeholder scheme of participation where universities, industry partners, governments, civil society actors and citizens via network and relations engage in co-creation. The argument is based upon the assumption that public value is created through such citizen participation and cross-sector collaboration, and that this is what libraries as institutions offer.

In continuation, the concept of participation is a focal theme in many articles (Engström & Dahlquist, 2020; Hernández-Pérez et al., 2022; Huvila, 2020). Through a study of policy documents Engstöm and Olsson (2020) explore how the notion of participation is constructed in the context of the Danish and Norwegian library sector. They argue that citizen participation both refer to a practice of governing users to self-governance, but also that citizen participation holds the potential to resist what is perceived unequal. In addition, Huvila (2020) exposes how librarians perceive user involvement and concludes that the underlying rationale is to see users as resources, hence reflecting a highly instrumental understanding of user participation. Despite the perception and degree of participation it is apparent how a key aspect is both libraries' role as 'developing' citizens and as convening communities. In regards to the former, it is argued that the different learning activities supports citizens to be involved and included in the larger society. Relative to the latter, and very much interlinked, the development of citizen skills are understood to go hand in hand with vitalization of local communities.

Delica and Elbeshausen (2017) propose a re-conceptualization of public libraries as a 'social' library, suggesting a shift towards greater community engagement and involvement. Based on case studies from the UK, Canada, and Denmark, the paper discusses three distinct types of social libraries. Firstly, the needs-based library (UK case) has a mission to reduce social inequality. Secondly, the community-led library (Canadian case) places communities at the forefront of public library organization and change. Finally, the library-led community (Danish case) represents a new organizational principle, combining the Nordic welfare model with the specific information needs of minority groups integrating into Danish society. The paper highlights the differences between these three types of libraries. The needs-based library indicates a shift towards prioritizing the local level for tackling marginalization and social exclusion. Library programs and practices are designed accordingly (Delica & Elbeshausen, 2017, p. 240). The community-led library, is founded on the responsibility of the community itself to make politics relevant to multiculturalism, social inclusion, and community building, resulting in a change in practices and self-perceptions within the public library sector. Lastly, the library-led community is the outcome of a national development program with the aim of creating community centers based on libraries. The implication is for libraries to broaden their range of services and features, adopting a new role as a network facilitator that connects local resources and institutions (Delica & Elbeshausen, 2017). A significant aspect to note is the library's ability to amalgamate previously isolated institutional knowledge and skills in the community. The social library thus embodies the ideal representation of local resources (Delica & Elbeshausen, 2017).

In continuation hereof, a review study has, within the public library sector, identified varied types of social innovations, which is defined as '*new products or services that are provided as a public good (…) with the intention of solving social problems and strengthening community ties'* (Winberry & Potnis, 2021, p. 337). Winberry and Potnis (2021) argue for the following six main types: lifelong learning (means for ongoing literacy training), emergency response (disaster response and recovery efforts), civic engagement (public interaction with stakeholders and institutions), economic development (stimulation of financial growth in local communities), health (encourage physical and mental well-being, and diversity and inclusion (support for socially marginalized groups (Winberry & Potnis, 2021, p. 345). The key argument is that these social innovations support libraries' role as community anchors, whether they are user-centered or community-centered social innovations.

Finally, some authors distinguish between library-led and community-led activities. To exemplify, Delgado (2023) differentiate library-led cultural programs from immigrant-led cultural programs. The first type of programs are activities where library staff purposefully plan and bring in cultural celebrations, and the second type is initiatives from individuals, groups and local organizations. Delgado´s study points to the fact that the latter are the ones with most positive results. Kine and Davidsone (2022) proposes an additional category of civic participation, besides events initated by the library and events organized by users solely using the resources of the library. That is, a more collaborative form, where the user/patron initiate an event that is realized in partnership with the library.

To sum up, public library typologies addresses different aspects; types of organization, types of innovations and types of activities. But key factors influencing these aspects relate to whether they are citizen-led, community-led and/or library-led.

## 4.3 Analytical themes: Service innovation of public libraries

***Space-place services***

Some authors have sought to encapsulate the essence of libraries through the concept of the 'third space' (Oldenburg, 1989). As public institutions, libraries are seen as third spaces (Elmborg, 2011; Williams, 2018).The term refers to places other than work or home where people can meet, interact, and network, such as cafes and sports venues. Libraries as third spaces are seen to have a unique role to play in generating value outcomes for the community and encouraging citizenship. Library services can aid all members of society to participate in both individual and societal developments (Williams, 2018). Further, libraries hold a specific image as public space accessible to the public in all communities and subject to public scrutiny. Hence, the literature emphasizes transformations of place-space service characteristics developed through innovation activities.

Most of the reviewed literature emphasizes that the library is a professionally managed and facilitated place-space. As such, the literature stresses the continuing need for librarians and other staff to sustain the library space. The one paper that takes the creation of public value as its starting point implies that librarians and other library professionals are needed for libraries to provide public value because it adopts the public manager perspective on public value creation of Mark Moor (Field & Tran, 2018). Another paper focuses on the role of the library for social innovation (Winberry & Potnis, 2021), implying that library professionals can facilitate social innovation. There is less research on bottom-up, citizen-led approaches to library spaces. A few studies highlight how the community can use the library space as a community center. However, of the 39 articles reviewed, at least 2 do include a clear community perspective on the library space (Andersen & Bilfeldt, 2017; Delica & Elbeshausen, 2017).

The conventional perspective within library research has predominantly emphasized libraries' role as purveyors of information and books. This has historically been closely associated with a specialized profession, the librarian, which is now facing challenges (Moring and Schreiber, 2022). These challenges are paving the way for novel interpretations of library professionals as creators and facilitators of new spaces for social interaction.

There is an observable shift from perceiving libraries as overseen by 'librarians', towards seeing them as 'community centers' where librarians facilitate activities and provide space for patrons to carry out activities on their own (Delica & Elbeshausen, 2017). Library spaces are dedicated to fostering community cohesion and are managed by 'library personnel' or 'library professionals'. Within this evolving space-place, librarians are in the process of assuming new, yet evolving roles, with the required skills still taking shape. Libraries are described as 'idea stores' and 'living rooms' (Delica & Elbeshausen, 2017), addressing issues such as 'lifelong learning,' 'civic engagement', and 'social inclusion' (Delica & Elbeshausen, 2017; Hernández-Pérez et al., 2022; Winberry & Potnis, 2021).

Much of the literature on the role of libraries is rooted in library studies. It therefore struggles to redefine the specificity of the library space and the library professionals. Elmborg (2011) highlights that libraries have historically been perceived as 'dominated spaces', implying that they are public environments where users are expected to adhere to specific codes of conduct. Elmborg contrasts this view with that of 'representational spaces', which are characterized as 'individual, perceptual, intuitive, and symbolic' (Elmborg, 2011, p. 11). They become 'third spaces' (drawing on Oldenburg, 1989) akin to cafes and bars where patrons can act in an intuitive and less regulated way. However, the literature on libraries that we have reviewed predominantly sets out to explore and explain the library's role as a somewhat regulated space, orchestrated by professionals, and guided by the mission to deliver and collaboratively create public value (Field & Tran, 2018).

In addition, Elmborg (2011) posits that for libraries to endure as specific spaces, there is a need to shift their approach away from being individual and intuitive (bars, cafés, living rooms), towards being more more structured so that we can recognize a library and distinguish it from a bar. The role of the librarian as a distinct profession in this evolving context appears increasingly uncertain. Other professions, notably anthropologists and social workers, are gaining comparable significance in shaping the library space (Moring & Schreiber, 2022; Delica & Elbeshausen, 2017).

In summary, in the reviewed literature, libraries, as physical spaces, undergo a transformation that can be categorized into three interconnected service dimensions: as 'new professional space-place services,' 'community space-place services' and 'inclusive space-place services'

1. **New professional space-place services**: Library spaces are conceptualized as linked to the library professionals aiming to establish a public space that is focused on specific library-related activities, particularly those associated with reading and education.
2. **Community space-place services**: Libraries are conceptualized as evolving into vibrant hubs of social activity, offering innovative environments like maker spaces (Lakind et al., 2019) and social innovation spaces (Gorham & Bertot, 2018). These spaces foster social interaction, creativity and community building.
3. **Inclusive space-place services**: Libraries are stated as supporters of social inclusion, catering to marginalized individuals (Williams, 2018) and those with health-related challenges (Gordon et al., 2023). They facilitate interactive learning, including language acquisition in natural settings, and offer opportunities for co-creation activities (Moring & Schreiber, 2022).Libraries contribute to individual value creation /(quality of life) and broader citizenship development, enhancing people's competencies as citizens (Gasco-Hernandez et al., 2022).

***Processual learning services***

The role of public libraries for learning is described in several papers. Learning, often conceptualised as a *processual learning*, can occur through social interaction or in the context of social innovation activities (Delica & Elbeshausen, 2017; Gasco-Hernandez et al., 2022). Active participation in such activities can entail learning outcomes. Learning outcomes encompass various skills, including digital skills, literacy, language proficiency for immigrants, and improved self-management of health concerns. Additionally, learning is also seen as interest-based, with individuals learning more about

hobbies and interests such as literature, sewing, or handicrafts. Furthermore, learning can also contribute to empowerment. Overall, libraries' learning activities are described in terms of individual needs and interests (user-centred) and citizenship (enabling participation in societal activities, e.g. social innovation) (Gasco-Hernandez et al., 2022).

However, while processual learning can be an outcome of social interaction in he library, learning also suggests the need for services to specifically support these learning activities. The expanding role of libraries therefore has an impact on the nrequested skills of staff and the perception of librarians. Rather than being a silent, book-centric space that suppresses noise, there is now an emphasis on new modes of work organisation and capabilities that support a more welcoming and socially engaging library organized for numerous processual learning activities (Hernández-Pérez et al., 2022).

Moring and Schreiber (2022) discuss the shift towards a more co-creative approach in the library. They provide three examples from Norway and Denmark to showcase how libraries can aid or engage in co-creation initiatives, with reference to a typology consisting of four kinds of co-creation: controlled, responsible, facilitated, and equal. In the initial three situations, the librarian assumes a crucial function as facilitators of co-creative approaches, whereas in the final, library experts play a lesser role.

More generally, Moring and Schreiber (2022) note that the library professionals need new relational and collaborative skills. The role of library professionals is moving *towards an understanding of professionals that by engaging in solving problems and cases through co-creation develop their expertise* (Moring & Schreiber, 2022, p. 8). *When connections are made between professionals and other professionals or citizens, they need to be able to define their work as a kind of expertise as well as to perform and articulate it in a way, which can be identified as legitimate by others* (p. 9).

In summary, the library is described, in the reviewed literature, as evolving from a service delivery with distinct roles for patrons and librarians to a dynamic and collaborative processual learning service responding to the needs of the community and providing services in collaboration with stakeholders particularly citizens of the community. This co-creative process entails skills development for both users and librarians. Patrons can enhance their personal skills or their skills as citizens through interactive learning processes, while librarians must acquire knowledge of services, service development and how services can be delivered though co-creation activities with patrons.

Librarians are described in relation to the needs of citizens and as operating within a community and stakeholder context. Ideally, there is a move towards libraries becoming much more collaborative, creative and participatory learning environments (Nicholson, 2019). Terms used in the literature include welcoming environments (Delgado, 2023) that can serve as ecosystems for learning and the transfer of culture (Crihana, 2018). Moreover, libraries can engage in smart city development and social development as active partners in a model known as the quadruple helix model (Gasco-Hernandez et al., 2022; Engström & Dahlquist, 2020; Kine & Davidsone, 2022). They are also engaged in user participation(Huvila, 2020), addressing community challenges (Gorham & Bertot, 2018; Winberry & Potnis, 2021), and supporting special groups like immigrants in adapting to life in a new country

(Grossman et al., 2022). Consequently, the library engages in a range of processual learning activities, both for its own staff and for patrons (as individuals with special needs and interests or/and as citizens engaged in community development), that refine and broaden interpretations of the public value of libraries (Field & Tran, 2018).

***Democratic engagement services***

Libraries have traditionally taken a role in democratic engagement, as advocated by the 'library spirit' promoting free and public access to books and information. Citizens can thus strengthen their competence and education as members of society.

However, although citizen engagement remains a central purpose for the library, there is also a broadening of the library role towards more participatory approaches, as expressed in themes such as 'Libraries for Life' and 'Health and Wellbeing' (Gordon et al., 2023). Libraries do not merely support people's education as citizens but also offer services to help individuals improve their quality of life. Patrons are intended not only to improve their citizenship generally but also to interactively and reciprocally develop practices that enable them to live better lives and become smarter citizens.

Gascó-Hernández et al. (2022) posit that within the context of smart cities, libraries can contribute to democracy in three key areas: 1) developing smart citizens, 2) enabling citizen participation, and 3) providing an innovation environment. First, libraries address the skills gap that undermines citizen involvement in smart city initiatives. Libraries play a role in fostering smart citizens who can contribute to the smart city agenda and utilize smart city initiatives. Second, while it appears that fewer programs and services are targeted towards citizen participation, libraries facilitate some level of involvement in smart city initiatives. Third, certain libraries offer facilities that encourage innovation and experimentation, empowering citizens to participate actively in the 'innovation ecosystem' and assist them in being co-creators in smart city endeavors. The library furnishes both a tangible and virtual platform for cooperation that allows citizens to experiment with their visions and interact with others to enhance and cultivate them. Similarly, Herández-Pérez et al. (2022) argue that public libraries can provide a technological infrastructure for social transformation, placing citizen engagement at the centre of innovation processes. Furthermore, they argue that libraries can contribute to strengthening social cohesion through situated, collective and technology-based innovation practices.

There is a small literature dedicated specifically to libraries' relationship with the maker movement. The maker movement is characterized by a do-it-yourself and collaborative approach that values distributed expertise and open workspaces. These values are believed to be intrinsic to the library profession (Lakind et al., 2019). These authors assert that public libraries were established with the purpose of democratization: to involve people in the social and political landscape and to expand their access to literature deemed valuable (p. 235). Based on a case study spanning three years of a maker program at Madison Public Library (MPL) in Madison, Wisconsin, the authors assert that libraries may offer free and inclusive access to making, librarian-led maker programs, as well as community connections for makers.

In brief, the literature presents varied perspectives of the library as a democratic institution, predominantly grounded in case studies and conceptual work. Libraries and librarians play a crucial role in promoting engagement and fostering community connections. Participatory activities can be initiated either by the library (with the involvement of library professionals) or through the library (with the participation of community groups) (see Delica & Elbeshausen, 2017). In many of the papers reviewed, the focus lies on the function of library professionals. The aim is to formulate new conceptualizations of the role of libraries and library professions in the development of smart and democratic citizenship.

Previously, libraries were mainly viewed as supporting representative democracy by enabling citizens to participate in the democratic process through their civic education. Currently, there is a greater emphasis on participatory democracy and the emergence of more informal and innovative spaces where citizens' initiatives can thrive. The literature mainly presumes that libraries are institutions that promote democracy. However, further critical studies that question the role of the library in promoting democracy may be necessary (see Engström & Dahlquist, 2020).

The reviewed literature appears to emphasize a participatory agenda without, however, providing a clear rationale for why participation is imperative. Additionally, these studies do not seem to consider the fact that individuals may visit the library for reasons other than democratic engagement (e.g. needing a quiet space for studying and reflecting). It raises the question whether there are other institutions and organizations that are better equipped to deliver on the democracy agenda as compared to libraries. Such issues require further research in the context of, among others, broader and more universal co-creation and innovation studies.

# 5 Conclusion

The research question of the report was: *How are innovation and participatory methods applied and understood in the context of public libraries and how does this influence opportunities and limitations relative to co-creation and co-innovation of library services and other community services?*

Based on the literature review and the key themes detected, Figure 2 is to be seen as a tentative answer to the research question.

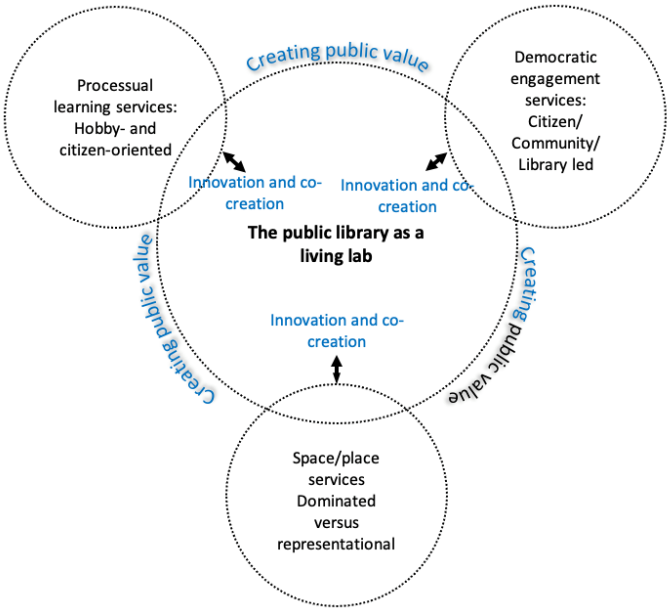


**Figure 2: The public library as a living lab in an eco-system context enabling public value creation**

Libraries are thus increasingly framed as a socio-technical infrastructure for citizens, comparable to an experimental living lab context. The boundaries of libraries and library professions are related to their role in public value creation and the services they provide in terms of processual learning services, space-place services and democratic engagement services. The library framed indirectly as a living lab in this sense means that co-creation and co-innovation of library services seems to be foreseen in the reviewed literature; however, there is also a skills issue at stake as library professionals need to identify, learn and adopt new skills of co-innovation and co-creation.

Both opportunities and limitations are related to the unclear understanding of what libraries should become in the future. The field is characterized by positivity, but the causal relationship between the value of concrete local initiatives and activities and more general societal value creation has not yet been established. One limitation in the reviewed literature, for example, is that the generally positive attitude towards libraries may hinder discussions about what they are *not*, as they continue to develop into spaces or places that encompass 'everything'. However, this positivity can also be a powerful force in rejuvenating the public library and ensuring its future viability as a central and significant cultural institution.

# 6 Future research: Case selection criteria and initial analytical focus

Based on the literature review, four general case selection criteria are proposed, relating to the themes explored about public value creation, processual learning services, space-place services and democratic engagement services. These are presented below as continua between two poles that need to be represented to varying degrees in the cases included.

1) **Public value-creation**: the focus of the library is mainly long-term (cultural and social) public value ceation – the focus of the library is mainly here-and-now public value creation (such as offering interest/hobby-based services or responding to specific citizens' needs)
2) **Processual learning services**: Services are social innovations that address community challenges, or they are domain-specific innovations and related to the library's core activities.
3) **Space-place services**: the library space evolves as library-led with the library as driver of innovations – the space is community-led with the community as a driver of innovation
4) **Democratic engagement services**: citizens have decision-making power in innovation processes – citizens are mainly informing innovation processes

To ensure and visualize how the forthcoming case studies are positioned within the four continua a spider web diagram will be applied (see Figure 3).

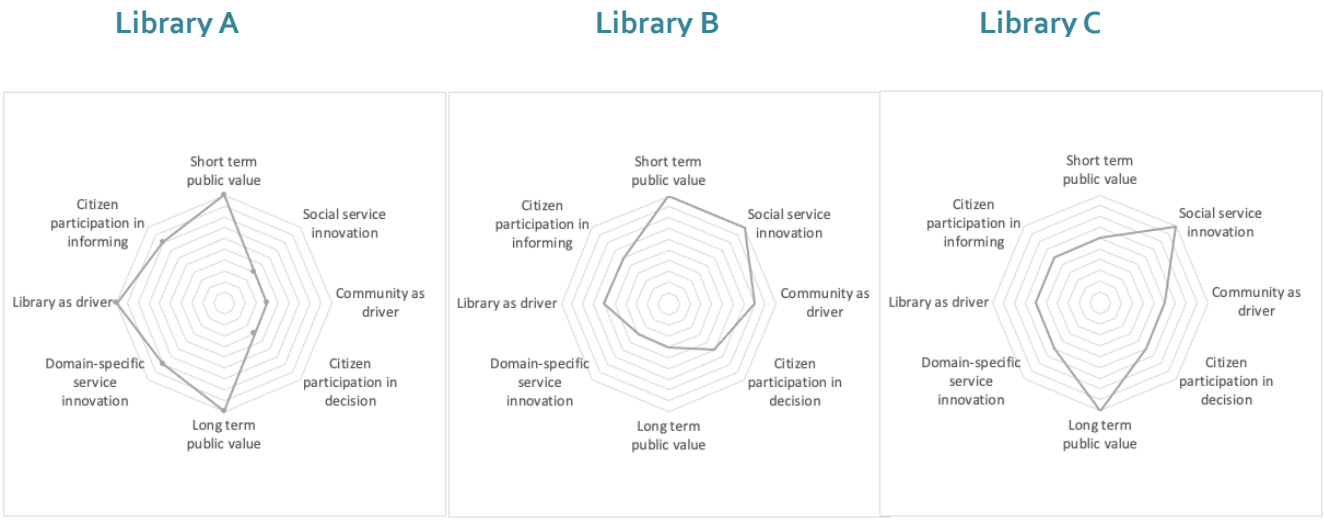


Figure 3: Selection criteria dimensions

These libraries types may be identified through expert interviews and the literature review. For example, a single in-depth expert interview with the Head of Development in a large Danish library revealed three different libraries representing different "poles" (like in Figure 3) along selection criteria dimensions as briefly outlined below to illustrate how the selection criteria will be applied.

Library A: It has developed a detailed long-term strategy of public value creation focused on developing domain-specific service innovation (e.g. reading and education). Patrons have limited

influence but inform in the innovation process through focus groups, observations and surveys. Library development is mainly driven by library professionals, especially management.

Library B: It utilizes a more informal approach of public value creation that is oriented towards short-term challenges in the community. It is driven by community and community spirit as a "cultural house" where people come for various reasons. They focus social innovations and development of cultural experiences to improve the community experience, and active citizen participation.

Library C: It has developed an innovative long-term strategy for creating public value. The policy aims for libraries are to be places where citizens are supported in their aspirations and needs to grow, learn and be inspired. Using design thinking, the library works with citizens to bring about change through co-creation. This methodology promotes citizen ownership and engagement with libraries.

Moreover, the forthcoming case studies of the work task will be centered around exploratory questions relative to: role, competences, innovation and co-creation, which are all key to Task 3.3. Initial key questions are:

- Role: What roles do public libraries claim to have in public value creation? What are the various ideas, preferences of library professionals?

- Competences: What skills are changed/enhanced on the side of the library professionals, the patrons, stakeholders and other contributors? How is value creation organized between them?

- Innovation: What forms of innovation processes are important? Are they participatory or not? How?

- Co-creation: Are public libraries oriented towards value co-creation of/with users and citizens? If public libraries are run by the public sector, are they then capitalizing on possible civil society initiatives in their process towards centralizing community activities?

# 7 List of possible libraries to be explored

Based on our review, the first Stakeholder panel meeting of the LibrarIN project, and reviewers comments, we have identified the following initial preliminary list of potential case-libraries of various types. More partner countries will be included pending case selection for which the partners are responsible. For some of the libraries we state what we presently estimate is the library type, while for others the library type has to be explored in more detail:

- Aarhus Public Library, Århus, Denmark (Library C type)
- Oudi, Helsinki, Finland (Library C type)
- De Krook, Ghent, Belgium (Library C type)
- Storyhouse, Chester, England (Library C type)
- Deichman Bjørvika, Oslo, Norway (Library B and C type)
- LILLIAD , Lille, France (Library type C)
- The C3 library, Vienna , Austria (Library Type C)

- The Library Rentemestervej (Copenhagen municipal library), Copenhagen, Denmark (Library B type)
- BPI, Paris, France (Library B type)
- Les Champs Libres, Rennes, France (Library B type)
- Frederiksberg Library, Frederiksberg, Denmark (Library A/B type)
- Library as outset for activism, Leeds, UK (Library B type) (stakeholder Josh Sendall)
- 'Living library' events, different target groups, Austria (stakeholder Julius Schrögel) (Library B type)
- Municipal library of the City of Vantaa, Finland (Library Type B)
- The Vienna Municipal Library , Vienna, Austria (Library Type B, to be explored)
- The Medialab, Tabakalera, San Sebastián, Spain (Library B type)

- Sandro Penna, Perugia, Italy (Library A type)
- Malmø University Library, Malmø, Sweden (stakeholder: AnnSofie) (Library A type)
- National Library of Latvia, Riga, Latvia (stakeholder: Katrina Kukaine) (Library A type)
- Libraries for children, Paris, France (stakeholder Julian Maréchal) (Library Type A/B)
- Paderborn City Library, Germany (stakeholder: Katrin Stroth) (Library type to be explored)
- Library living Lab, Barcelona, Spain (Library B type).
- Utrecht University, Utrecht, The Netherlands. (Library Type A)
- TU Delft, Delf, The Netherlands (Library Type A)
- The Austrian National Library, Vienna, Austria (Library Type A)

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