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The use of living labs in public administration

Abstract

This study examines the question of which external factors must be present to be able to use living labs successfully. Through qualitative analysis of 23 semi-structured interviews seven factors were identified that are decisive for the success of living labs. Four of the seven factors relate to the organizational environment: top-level support, the organizational structure, the lab's autonomy, and its resources. The other three factors relate to the living lab itself; here, the focus is on the lab's leadership, the mindset and motivation of the participants and its physical environment.

Second, it was analyzed which kind of public value living labs create for the public administration. Here, it was shown that the development of prototypes and the redesign of existing service processes create value for the public administration and citizens or other service users. The living labs help the employees of the administration to acquire new competencies, e.g. new working methods or new technologies. In addition, networks are created that promote the exchange of knowledge and experience.

Context

Living labs are organizations that are primarily concerned with the development of innovations and can be understood as collaborative platforms. Participants with different backgrounds, experiences and competencies come together, try out new services or technologies and develop them further. The advantage of this open collaboration is that the final product benefits from the diversity of the participants because different perspectives are taken into account during the development process. In the private sector, living labs are used to develop new services as well as to test new technologies (e.g. sensors for smart living). Living labs are also increasingly used in public administration: the ongoing digitalization of government offers opportunities to redesign and transform already existing services (Gascó, 2017). Here, living labs can help to experiment with a variety of solutions in a protected environment that can gradually be implemented on a larger scale (Tõnurist, Kattel, & Lember, 2017).

The distinctive feature of living labs in public administration is that they are closely related to their parent organization (McGann, Wells, & Blomkamp, 2019; Timeus & Gascó, 2018). In contrast, private sector living labs are independent organizations that mainly act as service providers. This constellation creates a special environment for living labs in public administration that can influence the lab's success.

In addition to the factors required for the successful use of living labs, it is important to understand what benefits the living lab creates for the public administration. In this regard, previous research has focused on the innovation potential of living labs, e.g., the developent of new services (Gascó, 2017). A problem with this innovation centric view is that positive side effects of an implicit nature are only partially captured. To account for these benefits the public value theory was used (Moore, 1995; Twizeyimana & Andersson, 2019) that describes a

variety of values that arise from the interaction between administration and civil society as well as other users.

Methodology

In total, three living labs were studied: GovLab Austria, GovLab Arnsberg and the Verschwörhaus. Table 1 contains an overview of the individual labs, their objectives, organizational forms and methods used.

	GovLab Austria	GovLab Arnsberg	Verschwörhaus
Initiation	2016, by the Austrian federal government	2018, district government	2016, city administration of Ulm
Goals	Facilitate innovation development within the federal administration	Redesign existing services, develop new services, improve processes	Space for experimentation with digital tools
Methods	Workshops	Experiments, Design-Thinking	Experiments, developing prototypes
Participants	Public servants, third sector organizations	Public servants, service users	Public servants, citizens
Structure	Leading board: makes strategic decisions Head quarter: operational tasks, responsible for organizing workshops and events Sounding board: provides feedback	GovLab leader: responsible for idea collection and moderating workshops Two employees who are responsible for operational tasks, supporting the GovLab leader	Leader: responsible for procuring resources and moderating workshops, facilitates day-to-day business
Government level	federal	Regional	Local
Funding	Federal government of Austria, Danube University Krems	District government	City administration of Ulm

Tabelle 1: Overview of the cases

Overall, 23 interviews were conducted with the lab's participants. On the side of the administration, these included interviews with managers and employees responsible for the living lab as well as users and volunteers from civil society. In this way, different perspectives were taken into account. The stakeholder interviews were analyzed using a two-step qualitative data analysis procedure (Miles, Huberman, & Saldaña, 2014). To do so, categories were first

derived from the academic literature on living labs, which were secondly refined and expanded with categories emerging from the data. The following results section discusses in more detail the factors and added values that were present in all or two of three living labs.

Results

Context factors on organizational level

At the organizational level, four factors were identified that influence processes in living labs.

Top-level support affects processes within living labs in three ways. First, it enabled creative thinking by increasing freedom for decision-making and allowing solutions outside of the routines of public administration. Secondly, the support was expressed through the lack of formal goals, enabling the participants to try out different solutions without external pressure. Thirdly, the top-level support increased the legitimacy of the living lab, which facilitated the long-term implementation of the lab's results.

The **autonomy** of the living lab refers to the extent to which participants can make decisions independently. If a living lab has little decision-making autonomy it is slower to achieve implementable results because they have to be coordinated with the organization. A high degree of autonomy can be achieved by simplifying the coordination through detaching it from the hierarchy of the organization. For example, in GovLab Arnsberg, direct meetings between the regional president and the leader enabled fast-decision making. Thus, results that imply changes in routines or service delivery processes are not diluted and can be continuously improved.

The hierarchical **organizational structure** primarily influences the participation of administrative staff in the living lab. It is difficult to make the living lab known throughout the administration because organizational silos hamper the exchange between organizations. In addition, hierarchical structures also influence creative thinking within the living lab because participants reviewed the solutions developed for internal feasibility and cared less about substantive issues. Furthermore, the influence of the organizational structure is closely linked to the autonomy of the living lab. The more autonomously a living lab can act, the less strongly the organizational structure influences the processes within the living lab.

Finally, the **resources** available to the lab influence its success. The most important resources of a living lab are financial and human resources that ensure its ability to act. Which and how many resources are needed depends on the lab's objectives. It is interesting to note that a lack of financial resources does not necessarily influence the creative processes within the living lab. Instead, GovLab Austria shows that the lack of financial resources it suffered from at the beginning led to more creative solutions later in the process.

Context factors on lab-level

At the lab level, three factors were identified that influence the processes within the living lab: the leadership, the mindset and motivation of the participants, and the physical environment of the lab.

The **lab's leader** has two important roles. First, the leader is responsible for ensuring that the processes within the living lab run smoothly. This includes, for example, the procurement of materials or the moderation of workshops. Second, the manager has the task of coordinating the outcomes developed at the lab with the administration and disseminating them throughout the organization. In this way, the leader helps to ensure that the results are implemented in the organization in the long-term.

The **mindset** of the participants and their intrinsic motivation also play a role: a risk-averse mindset can inhibit the development and implementation of new ideas. Intrinsic motivation was particularly evident among participants from civil society. Especially in the Verschwörhaus, volunteers participated who already knew each other and enjoyed working together on a personal level. This laid the foundation for a trusting collaboration with few conflicts.

The physical environment of the living lab also contributes to its success. Here it is important that the living lab stands out from the rest of the administration. There are various ways of doing this. On the one hand, a separate building can be rented that is not part of the administration's premises. On the other hand, a visual separation can be achieved through a deliberate design. For example, the GovLab Arnsberg used the furniture store Ikea to furnish the living lab instead of relying on the central procurement of the district government. The visual and physical redesign of the living lab created a creative and relaxed working atmosphere.

Living labs create public value for the administration and citizens

By using living labs, public administration can create public value for itself as well as for civil society in different ways.

Using living labs, the public administration can develop prototypes for new services or improve existing services, which primarily benefits citizens and other users. Furthermore, the public administration also benefits from living labs because the use of prototypes influences the decision-making in the administration and makes the evaluation of existing services possible. An example of this is the development of a chatbot in GovLab Arnsberg. Through the chatbot, the district government was able to understand how citizens used the existing service and was thus able to identify opportunities for redesigning the website.

In addition to the public value generated by the tangible results produced in the living labs, participation in the living lab itself also leads to public value for the administration. For example, administrative staff gets to know other employees with similar interests and skills who would not otherwise have met due to the hierarchical structure of the organization. In this way, organizational silos were broken down, since they kept in touch and the exchanged their knowledge and experience.

Citizens benefit by participating at the living lab: they can get in touch with the administration and work together on solutions. For example, the Verschwörhaus enabled citizens to experiment with tools and technologies that are difficult to obtain or not worth purchasing for a private household. This creates opportunities for citizens and employees of the administration to familiarize themselves with new technologies and acquire digital skills.

Theoretical and practical implications

Theoretical implications

The identification of several context factors contributes to theory on living labs in public administration because they explain why some labs might be more successful than others. Future research can find out to what extent the identified factors also apply to living labs located in a different bureaucratic context.

Practical implications

For public servants who want to set up a living lab three practical recommendations are derived from the results of this study. First, it is advisable to secure the top-level support, especially from the upper levels of the hierarchy, before establishing the living lab. This increases the legitimacy of the living lab within the organization and simplifies the procurement of resources. Second, the lab's leader should also be carefully selected. Ideally, the manager is open to new working methods (design thinking, agile working methods) and implements them in the living lab. In addition, the leader should identify with the goals of the living lab and communicate them to the organization. This makes the living lab better known within the administration and reduces resistance and skepticism. Third, the design of the lab's physical environment plays a role. Spatially and visually, the lab should be separate from the rest of the organization, thus promoting a creative working atmosphere.

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