ISSN: 1696-8352

# Method to identify stakeholders in an innovation environment

# Método para identificar as partes interessadas em um ambiente de inovação

DOI: 10.55905/oelv21n9-167

Recebimento dos originais: 28/08/2023
Aceitação para publicação: 25/09/2023

**Anderson Ricardo Silvestro**
PhD Student in Engineering and Knowledge Management, Engineering and Knowledge Management Department
Institution: Universidade Federal de Santa Catarina
Address: R. Eng. Agronômico Andrei Cristian Ferreira, s/n, Trindade, Florianópolis - SC, CEP: 88040-900
E-mail: ricardo.silvestro@gmail.com

**Eduardo Mazzuco**
Master's Student in Administration
Institution: Universidade Estadual de Santa Catarina
Address: Av. Madre Benvenuta, 2037, Itacorubi, Florianópolis - SC, CEP: 88035-001
E-mail: eduardo.mazzuco@gmail.com

**Clarissa Stefani Teixeira**
PhD in Production Engineering, Engineering and Knowledge Management Department
Institution: Universidade Federal de Santa Catarina
Address: R. Eng. Agronômico Andrei Cristian Ferreira, s/n, Trindade, Florianópolis - SC, CEP: 88040-900
E-mail: clastefani@gmail.com

## ABSTRACT

Cities have numerous problems associated with the development, they are often difficult to be solved given that they involve various actors of the local ecosystem, such as mobility, infrastructure, and pollution, among others. In the literature, there is the notion of classifying stakeholders, although they do not observe its application in Living Lab (LL) projects. This typology of innovation habitat helps companies test their innovative products and services before launching them into the market. Managing stakeholders is crucial in this process in order for there to be effectiveness, legitimacy, and business ethics. Thus, this article sought to develop a practical tool to map the processes, methods, and criteria used to identify LL stakeholders through a literature review. Our findings revealed a knowledge gap with LL, enabling us to create a process that assists in identifying LL stakeholders.

**Keywords:** innovation habitat, living lab, mechanism, identification, stakeholders.

ISSN: 1696-8352

**RESUMO**
As cidades apresentam inúmeros problemas associados ao desenvolvimento, muitas vezes difíceis de serem solucionados visto que envolvem diversos atores do ecossistema local, como mobilidade, infraestrutura, poluição, entre outros. Na literatura, existe a noção de classificação dos stakeholders, embora não observem sua aplicação em projetos de Living Lab (LL). Essa tipologia de habitat de inovação ajuda as empresas a testar seus produtos e serviços inovadores antes de lançá-los no mercado. A gestão de stakeholders é fundamental nesse processo para que haja eficácia, legitimidade e ética nos negócios. Assim, este artigo buscou desenvolver uma ferramenta prática para mapear os processos, métodos e critérios utilizados para identificar os stakeholders de LL por meio de uma revisão de literatura. Nossas descobertas revelaram uma lacuna de conhecimento com o LL, permitindo-nos criar um processo que auxilie na identificação das partes interessadas do LL.

**Palavras-chave:** habitat de inovação, laboratório vivo, mecanismo, identificação, partes interessadas.

## 1 INTRODUCTION

Cities have advanced at a fast pace and become increasingly complex due to the growth of urbanization around the world (Ståhlbröst et al., 2015; Giang et al., 2017). As a result, problems related to mobility, pollution, health, and infrastructure, among others, have arisen that cannot be solved only by public authorities (Giang et al., 2017). A characteristic of these problems is that they are tied to numerous interests and are challenging to solve because there is not just one responsible party but multiple stakeholders involved with different goals (Choi et al., 2017; Quak et al., 2016). Some stakeholders are identified indirectly in the form of "elements," including technology for vehicles technology, information and communication technology solutions, regulation, market, infrastructure networks, supply, and maintenance. Hence, many stakeholders are responsible for each element (Quak et al., 2016).

Although the notion of classification exists in the literature on managing these stakeholders, studies have not utilized living lab (LL) projects (Müller et al., 2015). Companies use LL to avoid the risks and costs associated with developing a product or service, especially small and medium-sized enterprises (SMEs), which are encouraged to participate in innovation processes to test products before launching them into the market

ISSN: 1696-8352

(Nasti, 2015). Nevertheless, stakeholders are involved in the case of LL, both in the literature and in the practices of organizations. To this end, organizations must be aware of the stakeholders around them and manage them successfully to ensure effectiveness, legitimacy, and ethics in their business (Wang & Mingers, 2015). Leminen et al. (2020) explained this by stating that it is difficult to capture the interdependencies between stakeholders from an empirical perspective, and it is not possible to clearly understand the relationship and interests of these different stakeholders with the LL.

Given this context, this article sought to map the processes, methods, and criteria used in identifying stakeholders through a literature, analyze and develop a structured process in four steps — a method to identify the LL stakeholders through pre-identification, identification of potential stakeholders, stakeholder validation, and review of LL stakeholders.

## 2 METHODOLOGY

The methodology employed a rational and systematic procedure to provide solutions to the challenges presented (Gil, 2002). Given that this study aims to identify stakeholders in LLs, a qualitative approach of an applied nature was used as it sought to point out a dynamic relationship between the objects of study that cannot be translated into numbers and propose a practical tool to help solve a specific problem (Gil, 2008).

Given the objectives, this study has an exploratory (familiarization with the problem was sought in the first stage) and descriptive character (during the presentation of the process in the second stage) (Gil, 2008). To reach our objective, different technical procedures were used. The first one utilized a literature review of the two theoretical constructs: “stakeholder identification” and “living lab.”

The review of the first construct was used to develop the tool and, consequently, to achieve the specific objective of identifying the processes, methods, and criteria used in identifying stakeholders. The second review served as a basis for identifying how stakeholders are identified in LLs. The literature review is an integral part of any study because it builds the theoretical foundation, the state of the art on the researched subject (Garcia, 2016). A review using a synthesis is employed to avoid and overcome challenges

ISSN: 1696-8352

the researcher may have in analyzing the literature on a given topic (Galvão et al., 2004). The Scopus (Elsevier) database was used for both reviews. For the first review, the term "("Living Lab*")" was used; in the second, the term "Stakeholder Identification" was used, as listed in Table 1.

Table 1 - Search process

| Description | Search strings | |
|---|---|---|
| SCOPUS database | Living lab and stakeholder | Stakeholder identification |
| Search by title, abstract, and keywords | 115 | 47 |
| After excluding the redundancies and the availability of the manuscript | 68 | 30 |
| After reading the abstract, title, and keywords | 25 | 9 |
| Inclusion of manuscripts based on the references | 11 | 23 |
| Total number of manuscripts used | 36 | 32 |

Source: the authors

In relation to the construct of "Stakeholder Identification," we mainly sought studies that could be used as a reference to construct the proposed practical process. After reading the nine studies selected, 23 references used by these authors were consulted and included to compose the theoretical reference on the theme, totaling 32 studies.

For the second construct, considering that the objective is to understand who are the individuals pointed out as stakeholders in LLs, we sought to refine the search and make the study more objective by opting to restrict the term "Living Lab*" only to the title of the studies and the term "Stakeholder*" to the title, abstract, or keywords. This restriction reduced the result to 115 (68 available).

ISSN: 1696-8352

## 3 LITERATURE REVIEW

### 3.1 DEFINITION OF STAKEHOLDERS

Existing research on stakeholders can be divided into three categories: descriptive (focuses on the actions taken by managers to deal with stakeholders), instrumental (identifies and analyzes relationships among stakeholders), and normative (concerned with ethics and corporate responsibility) (Wang & Mingers, 2015).

At the theory's core, there is an instrumental identification problem: guidelines or principles are missing to help identify the relevant parties to the organization and to analyze their interests and the basis of their claims (Perrault, 2017). In other words, identifying stakeholders consists of determining the different types, while the analysis comprises the management of their interests and responsibilities (Wang & Mingers, 2015). Regarding interest, many authors end up limiting it only to contractual ties, leaving little room for other considerations (Crane & Ruebottom, 2011).

Regardless of which approach is followed, stakeholder identification falls on three questions: "who are they?" referring to their characteristics, "what do they want?" as to their goals, and "how do they want it?" in relation to the means (Frooman, 1999).

#### 3.1.1 Processes and Methods for Stakeholder Identification

One of the problems with stakeholder identification is that this process is hardly documented and/or made explicit in the literature. According to Fritz & Dentchev (2018), the processes by which stakeholders are identified are rarely mentioned and difficult to recognize since they are not referenced that way and are inappropriately called methods. This method is understood as the techniques used for identification, such as literature review, brainstorming, checklists, questions, interviews, and focus groups, among others; the combination of these methods constitutes a process (Fritz et al., 2018).

Each method has strengths and weaknesses and requires specific resources, so combining them is indicated (Fritz et al., 2018). For instance, brainstorming and checklists require few resources, while others, such as interviews and expert consultation, help understand more complex situations (Fritz et al., 2018). According to Gregory & Hodgson (2020), a literature review is an interesting method to understand relevant

ISSN: 1696-8352

organizational processes and identify stakeholders, as it enables one to name the different categories. This method is a good starting point for identifying stakeholders; however, just conducting a literature review is not enough since not all of them appear (Fritz et al., 2018).

Duggan & Kraak (2013) suggested starting by identifying conventional stakeholder groups in the literature, followed by a snowball sampling analysis (a non-probabilistic analysis technique where each participant nominates another) until a stakeholder group is mentioned ten times.

As for interviews and focus groups, these methods help to understand the stakeholders' perspectives (Gregory et al., 2020). When applying one of these two methods, it is vital to involve the right stakeholders. The choice should consider not only their knowledge but also their previous experiences, roles in the project, and positions within their respective organizations (Achterkamp & Vos, 2007). Parent and Deephouse (2007) reported that stakeholder role and position affect identification, with the higher the position held, the greater the number of stakeholders identified. For reasons of cost or practicality, it is not always possible to include affected groups (e.g., community) but only their representatives (Wang & Mingers, 2015).

Using specific checklists or matching them against predefined groups or roles (e.g., users, developers, policymakers, and decision-makers) in certain contexts helps to reveal local stakeholders (Fritz et al., 2018). Sharp et al. (1999) proposed an identification process in which the first step is to draw a baseline with predefined stakeholder groups and then assess the suppliers, customers, and others who may interact with each baseline group.

Regardless of the chosen processes and methods, Fritz et al. (2018) pointed out requirements that should be applied; nonetheless, only one or none of them is often used in the identification process.

Neglecting these principles leads to consequences in identification. This was observed by Pacheco and Garcia (2012), who, in a literature review between 1984 and 2011, confirmed the lack of creativity in identification (due to "thinking inside the box")

ISSN: 1696-8352

and incorrect or incomplete identification of requirements since the correct parties were not heard.

### 3.1.2 Stakeholder Classification

The classification of stakeholders is usually done based on salience (e.g., power and legitimacy), criteria (e.g., geographic location), roles (e.g., customer or supplier), or types (e.g., involved or affected) (Ballejos & Montagna, 2008; Perrault, 2017). These examples define stakeholders primarily socially and economically (Crane & Ruebottom, 2011). From the social perspective, it is possible to define them from a social identity (gender, age, race, religion, nationality, etc.), as suggested by Crane and Ruebottom (2011). In addition, there are mixed approaches, as presented by Perrault (2017), suggesting the status attribute (e.g., reputation, visibility in the media, and other customers that the stakeholder has).

For Ballejos and Montagna (2008), the concept of "stakeholder type" is defined as the classification of a set of parties that share the same properties and attributes according to the dimension being analyzed. In contrast to Achterkamp and Vos' (2007) narrower definition, they stated that other authors use broader categories, such as involved and affected (Ulrich, 1983), fiduciary and non-fiduciary (Goodpaster, 1991), and primary and secondary, voluntary and involuntary (Clarkson, 1995). Like Ulrich (1983), De Vries et al. (2003) proposed an identification process where the categories are predefined from an analysis of who can benefit or be affected by the system.

Nevertheless, these typologies are problematic as they omit how these groups form (Wolfe & Putler, 2002); when faced with a practical problem of identifying stakeholders for a specific project, they are not particularly useful as they are vague and can lead to an erroneous or incomplete consideration of stakeholders (Sharp et al., 1999). One form of classification based on attributes is the salience model. This model was developed by Mitchell et al. (1997) and combines three social science concepts (power, legitimacy, and urgency) to characterize stakeholders, and the more attributes present, the greater their salience (Parent & Deephouse, 2007).

ISSN: 1696-8352

However, as Harvey and Schaefer (2001) stated, measuring these attributes is "very difficult and perhaps unnecessary, given that managers will assess the influence of the parties based on their perceptions rather than objectively." Thus, if a stakeholder can influence the project, present a plausible reason for legitimacy and demand results, it should be considered a definite stakeholder, and it is necessary to attend to it as soon as possible. Similarly, Perrault (2017) argued that stakeholders must possess a legitimate claim or power to influence the organization.

## 3.2 LIVING LABS

### 3.2.1 Definition of a Living Lab

An LL can be thought of as a habitat of innovation, design, or methodology. Initially, the concept of an LL was used to describe a controlled environment (e.g., an apartment) where humans interacted with space, objects, and technologies while other people watched (Intille, 2005). Subsequently, researchers and companies, mostly in technology, established LLs in real contexts (Müller et al., 2015). Meeting this definition, Nesterova and Quak (2016) stated that LLs are a dynamic environment where complex innovations are tested and improved in a real context; monitoring and responding to users can accelerate the innovation's development and deployment (Quak et al., 2016).

Living labs refer to the study and testing of innovations in a real context and users and can be seen as a test bench where people can collaborate with researchers and key stakeholders (Åström et al., 2015; Jackson, 2017). Nevertheless, Niitamo et al. (2006) reported one difference between an LL, and a traditional pilot test is in the maturity level of the innovation since the product is usually still under development during validation in the LL.

Thus, the goal is to involve users early in the research and development process, with the intention of co-creation (Vérilhac et al., 2012). The achievements of the LL movement have gone beyond the development of demonstrations, pilots, experiments, and tests: it has shifted the emphasis from the solution as an isolated object to a process of integration with its environment (Quak et al., 2016).

An LL can be considered an open innovation environment; it is usually based in a specific territory, involving a diversity of stakeholders, such as user communities, solution developers, research labs, local authorities, policymakers, and investors (Vérilhac et al., 2012). According to Xie and Wang (2021, p. 309), "firms that occupy higher open-innovation niches in innovation ecosystems have advantages in technical and capital resources." In this context, LL can potentially increase the innovation capacity of these companies by providing a neutral place where different parties can collaborate in a trusted environment (Niitamo et al., 2012).

In summary, an LL is an environment in which there are public-private partnerships involving cooperation between the government and the private sector (Lai et al., 2009), with the primary goal of exploring new ideas and concepts, trying them out, and evaluating which ones can become successful innovations (Vérilhac et al., 2012). From a market perspective, LL offers a research and innovation platform that allows for rapid mass customization and the entire team's cooperation during the process (Niitamo et al., 2006; Zheng et al., 2021).

### 3.2.2 Identifying Stakeholders in a Living Lab

During the literature review, only three of the 25 studies focused on identifying stakeholders from the LL viewpoint (Section 3.2.4.3). Despite commenting on the presence of multiple stakeholders and the importance of involving all, the rest did not explore the roles and interests or bring a view restricted to the context of the development solution.

Moreover, only two of the 25 papers highlighted aspects based on stakeholder theory: the first, conducted by Ståhlbröst et al. (2015), explored the stakeholders of an LL project in a smart city context, and the second, conducted by Giannouli et al. (2018), described a case study on energy planning, in which they identified different groups of stakeholders, classifying them into involved and significantly affected.

Given the above, it is evident how the literature on LLs often brings a vague or very context-specific identification and is not based on stakeholder theory.

ISSN: 1696-8352

As explained earlier, three papers have identified stakeholders from the LL's view. In the first, Ståhlbröst et al. (2015) used Mitchell's salience model as a reference and argued that the relationship between the LL and stakeholders could be one of dominance over each other or mutual dependence. According to the authors, the basis for legitimacy for the stakeholder can be for four reasons: contractual, claim, the risk involved, or moral claim, and when there is no legitimacy, it can be only out of the stakeholder's interest.

As shown Ståhlbröst et al. (2015) provided external and internal roles to the LL (internal resources). As pointed out by the authors, the dependence and legitimacy of stakeholders are specific to applying context and must be evaluated on a case-by-case basis. Moreover, another peculiarity in the case studied by the authors is that the LL in question was designed from the beginning to validate a single solution.

The second study identified stakeholders based on the LL point of view and was developed by Nesterova and Quak (2016). The authors reported five main roles (Table 2) that must be managed in the LL model: owner, stakeholders, user, customer, and developers (in the paper, the authors called them stakeholders, although in order not to generate ambiguity, it was replaced by this nomenclature).

Table 2 - Description of the stakeholders' roles in an LL.

| Stakeholder | Description |
|---|---|
| Owner | Real or virtual organization appointed to lead the LL. This stakeholder is responsible for structuring, organizing, conducting, and monitoring the LL. Ideally, it should be occupied by the city authorities. |
| Participants | They are responsible for the governance of the LL. In addition, they can occupy different roles during an LL process. Example: owners of a space where solutions will be tested. |
| Users | Organizations that test the solutions in a real environment. |
| Customers | Those who benefit, directly or indirectly, from the results of LL. |
| Developers (stakeholders) | Organizations that create and implement solutions in LL. |

Source: adapted from Nesterova and Quak (2016).

ISSN: 1696-8352

By comparing the roles identified by Ståhlbröst et al. (2015) with those described by Nesterova and Quak (2016) and those pointed out, three observations can be made: i) Nesterova and Quak (2016) divided the roles of funders between owners and participants, as owners do not always actively participate in LL; ii) both include users and customers (called affected in the former); iii) depending on the relevance of problem owners and providers in the context, they can be considered crucial and framed as LL participants.

## 4 RESULTS

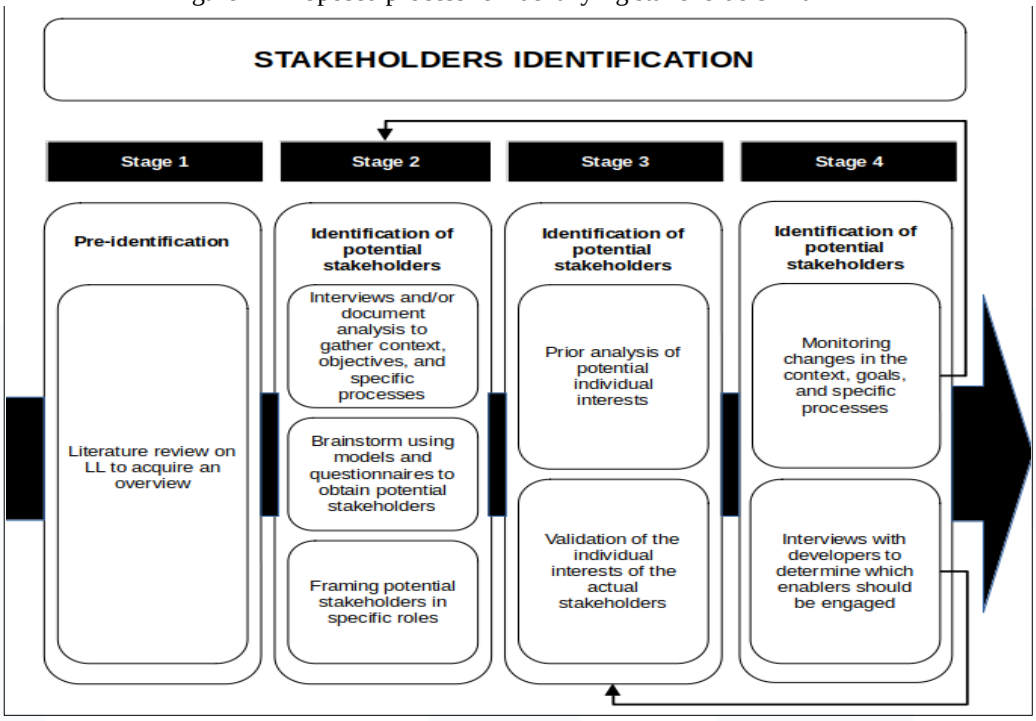
This section describes the results identified in a literature review to build the dimensions of the stakeholder identification process. From this, we observed a set of activities required to identify them in a project.

Based on the identification processes and methods observed in the literature, a structured process was proposed and organized into four steps: pre-identification, identification of potential stakeholders, stakeholder validation, and stakeholder review.

As seen in the "Stakeholder Identification" section, an identification process usually incorporates only three stages: defining the context and identifying initial stakeholders, improving the understanding of the context from the stakeholders' perspective, and validating the identified stakeholders. However, as Wang and Mingers (2015) pointed out, it is necessary to continuously monitor, coordinate, and motivate stakeholders. For this reason, a step focused on reviewing the stakeholder framework and identifying other potential parties for the tested solutions was created, especially for those LLs that operate and select new developers each cycle (Quak et al., 2016). These steps and activities were represented using a diagram (Figure 1).

ISSN: 1696-8352

Figure 1 - Proposed process for identifying stakeholders in an LL




Source: elaborated by the authors

In this way, a structured process was built with defined steps and activities to facilitate the identification of stakeholders. The steps are described below.

## 4.1 "PRE-IDENTIFICATION" STAGE

As in the process carried out by Achterkamp and Vos (2007), the literature review was also used as the first step for identification. From the review, it was possible to gain a general understanding of LLs and potential stakeholders. Moreover, it is beneficial for situations in which those responsible for implementing the LL do not have experience in the model, unlike the case presented by Salado and Nilchiani (2013), in which those involved had over five years of work in the area. Hence, it is indicated that at least one of the people participating in the identification has technical knowledge of LL.

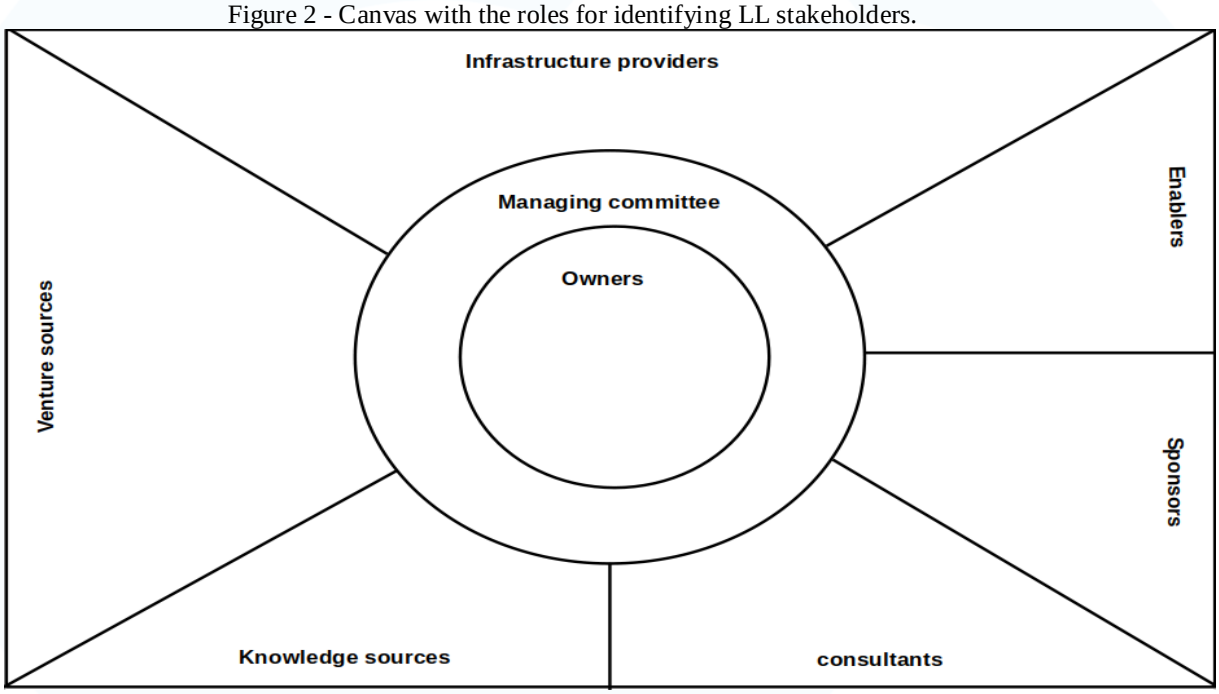
## 4.2 "POTENTIAL STAKEHOLDER IDENTIFICATION" STEP

The second step involves surveying the LL's scope, objectives, processes, and key activities specific to an LL (Wang and Mingers, 2015). In this way, one seeks to find

ISSN: 1696-8352

"what issues to consider" (Gregory et al., 2020). Some of these issues are inherent to the LL model and could be identified through the literature review conducted during the first stage; however, given the different possible objectives and contexts, it is necessary to specify them for the actual case under analysis (Wang & Mingers, 2015), since these definitions are strategic and can be obtained through interviews with those responsible for the LL and document analysis (Gregory et al., 2020).

Figure 2 - Canvas with the roles for identifying LL stakeholders.




Source: Mazzuco (2020)

After identifying potential stakeholders, based on the reference model, the stakeholders should be framed in the roles presented in the "Multi-Stakeholder" pillar using a canvas (Figure 2).

The objective of the canvas (Figure 2) is to identify visually and easily the potential stakeholders, in addition to helping to highlight those that fit into more than one role to verify if the interests are in accordance with what is expected of each one.

After gathering this information, a brainstorming session is performed with those responsible for the LL to identify potential stakeholders; as Fritz et al. (2018) pointed out, this method requires few resources and helps in complex situations. Moreover, as the

ISSN: 1696-8352

authors suggested, this model helps to reveal local stakeholders. As indicated by Wang and Mingers (2015) and Fritz et al. (2018), the model was built based on the examples of stakeholders identified in the literature or indicated.

### 4.3 "STAKEHOLDER VALIDATION" STEP

In the third step, the interests of potential stakeholders pointed out during the previous step should be analyzed individually. Although authors such as Wang and Mingers (2015) consider the analysis of interests as a separate process from the identification, it is crucial to keep in mind the relationship and results expected by each stakeholder before approaching them and inviting them to participate in an LL. When analyzing the interests of each stakeholder individually, they may not be aligned with the LL's key objectives and activities or there may be conflicts of interest (Giannouli et al., 2018).

This nomenclature was established based on the stakeholders' main relationship with LL. After the previous analysis, one must validate the interests personally with the stakeholders. During the approach, one should pay attention to whether the interests coincide with those expected and if they are committed to the expected role. Otherwise, as Quak et al. (2016) presented, the lack of full engagement of all relevant stakeholders may result in more problem discussions than solution development and testing.

### 4.4 "STAKEHOLDER REVIEW" STEP

Since LL is a dynamic environment, changes can occur in stakeholders' objectives, activities, and interests; thus, monitoring changes in these aspects and reviewing the framework is necessary. Additionally, since LLs work in cycles, where solutions are validated during time intervals, it is necessary to take a fresh look at potential stakeholders, especially enablers and infrastructure providers. This type of stakeholder is referred to as temporary or transitional since managers may choose to include them at other times (Achterkamp & Vos, 2007).

Managers can configure their strategies according to the availability of company resources and capabilities (Zheng et al., 2021). Even when the LL does not run in cycles

ISSN: 1696-8352

and the developers remain the same throughout the LL's lifetime, the solutions may undergo changes that warrant new stakeholders. Using the possible interests of stakeholders according to their role in the LL helps the participants in the brainstorming session to acquire a holistic view of who might be involved in an LL. After identifying the potential stakeholders, they can be framed in their respective roles.

## 5 CONCLUSIONS

The result of this study is a process that enables identifying stakeholders in an LL. Most of the time, the identification process is carried out in an unstructured way. As for the methods, we found that literature reviews, brainstorming, checklists, interviews, focus groups, and expert consultations, are the most common forms, each having its advantages and disadvantages, and it is recommended to combine them. The context, strategy, processes, and key activities of an organization also influence the stakeholder framework, and it is advisable to review it whenever there is any change in these points.

As for the specific objectives, mapping the processes, methods, and criteria used in identifying stakeholders, we observed a knowledge gap about this process, especially in complex contexts. The identification is usually based on the stakeholder theory and other approaches, such as requirements engineering, systems thinking, and its aspects. In addition, we noted that the identification usually uses classifications and roles to characterize stakeholders.

As for analyzing how stakeholders are identified in LLs, we observed that despite multiple stakeholders being generally described and the importance of understanding their interests often being highlighted, only three out of 25 studies found brought an in-depth identification from the point of view of the LL. Most of the time (22 among the 25 studies evaluated), the identification was made superficially or specifically to the theme in which the LL works, not focusing on the classification or roles of the stakeholders in relation to the LL. In addition, only two papers brought aspects of stakeholder theory or other approaches as a rationale. As for the development of a structured process for identifying LL stakeholders, a process was structured to assist in this practice based on the knowledge obtained about the identification and characteristics of LLs.

ISSN: 1696-8352

The proposed process was divided into four steps (pre-identification, identification of potential stakeholders, validation, and review). In addition, tools were created to assist in the identification process, such as templates and a canvas, combining literature review methods and structured brainstorming sessions.

Hence, taking into consideration the qualitative approach used, the main gain of this work is the process and the tools built, which help identify the stakeholders in a LL. Given our findings, some opportunities for developing possible related works were identified; regarding identifying LL stakeholders, a study can be carried out to identify internal stakeholders since our study, despite providing some examples in the literature review, focused only on identifying the external ones. The identification process proposed can be validated in a real LL since only a literature survey was built.

## ACKNOWLEDGMENT

The authors thank CNPq, for financially supporting this work through the CNPq grant, as well as the Federal University of Santa Catarina, through the Department of Engineering and Knowledge Management/EGC and the Federal Institute of Mato Grosso, for guaranteeing the authors' studies.

ISSN: 1696-8352

## REFERENCES

Achterkamp, M. C., & Vos, J. F. (2007). Critically identifying stakeholders: evaluating boundary critique as a vehicle for stakeholder identification. Systems Research and Behavioral Science: The Official Journal of the International Federation for Systems Research, 24(1), 3-14. https://doi.org/10.1002/sres.760.

Åström, J., Ruoppila, S., Ertiö, T., Karlsson, M., & Thiel, S. K. (2015). Potentials and challenges of a living lab approach in research on mobile participation. In Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers (pp. 795-800). https://doi.org/10.1145/2800835.2804399

Ballejos, L. C., & Montagna, J. M. (2008). Method for stakeholder identification in interorganizational environments. Requirements engineering, 13(4), 281-297. https://doi.org/10.1007/s00766-008-0069-1

Bittner, K., & Spence, I. (2003). Use case modeling. Addison-Wesley Professional. https://pdfcoffee.com/qdownload/use-case-modelling-by-kurt-bittner-and-ian-spence-pdf-free.html

Choi, C., Kim, E. Y., Lee, E. J., Kim, S. M., & Lee, N. G. (2017). Pohang living lab: Utilizing modeling and simulation as a collaboration method. In 2017 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computed, Scalable Computing & Communications, Cloud & Big Data Computing, Internet of People and Smart City Innovation (SmartWorld/SCALCOM/UIC/ATC/CBDCom/IOP/SCI) (pp. 1-6). IEEE. https://doi.org/10.1109/UIC-ATC.2017.8397399

Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. Academy of management review, 20(1), 92-117. https://doi.org/10.2307/258888

Crane, A., & Ruebottom, T. (2011). Stakeholder theory and social identity: Rethinking stakeholder identification. Journal of business ethics, 102(1), 77-87. https://doi.org/10.2139/ssrn.1662437

Duggan, D. E., Farnsworth, K. D., & Kraak, S. B. (2013). Identifying functional stakeholder clusters to maximise communication for the ecosystem approach to fisheries management. Marine Policy, 42, 56-67. https://doi.org/10.1016/j.marpol.2013.01.023

Fritz, M. M., Rauter, R., Baumgartner, R. J., & Dentchev, N. (2018). A supply chain perspective of stakeholder identification as a tool for responsible policy and decision-making. Environmental science & policy, 81, 63-76. https://doi.org/10.1016/j.envsci.2017.12.011

ISSN: 1696-8352

Frooman, J. (1999). Stakeholder influence strategies. Academy of management review, 24(2), 191-205. https://doi.org/10.2307/259074

Galvão, C. M., Sawada, N. O., & Trevizan, M. A. (2004). Revisão sistemática: recurso que proporciona a incorporação das evidências na prática da enfermagem. Revista Latino-americana de enfermagem, 12, 549-556. https://doi.org/10.1590/S0104-11692004000300014

Garcia, E. (2016). Pesquisa bibliográfica versus revisão bibliográfica-uma discussão necessária. Línguas & Letras, 17(35). https://e-revista.unioeste.br/index.php/linguaseletras/article/view/13193

Giang, T. T. H., Camargo, M., Dupont, L., & Mayer, F. (2017, June). A review of methods for modelling shared decision-making process in a smart city living lab. In 2017 International Conference on Engineering, Technology and Innovation (ICE/ITMC) (pp. 189-194). IEEE. https://doi.org/10.1109/ICE.2017.8279888

Giannouli, I., Tourkolias, C., Zuidema, C., Tasopoulou, A., Blathra, S., Salemink, K., ... & Koutsomarkos, N. (2018). A methodological approach for holistic energy planning using the living lab concept: the case of the prefecture of Karditsa. European Journal of Environmental Sciences, 8(1), 14-22. https://doi.org/10.14712/23361964.2018.3

Gil, A. C. (2002). Como elaborar projetos de pesquisa (Vol. 4, p. 175). São Paulo: Atlas. https://docente.ifrn.edu.br/mauriciofacanha/ensino-superior/redacao-cientifica/livros/gil-a.-c.-como-elaborar-projetos-de-pesquisa.-sao-paulo-atlas-2002./view

Gil, A. C. (2008). Métodos e técnicas de pesquisa social. 6. ed. Ediitora Atlas SA. https://ayanrafael.files.wordpress.com/2011/08/gil-a-c-mc3a9todos-e-tc3a9cnicas-de-pesquisa-social.pdf

Goodpaster, K. E. (1991). Business ethics and stakeholder analysis. Business ethics quarterly, 53-73. https://doi.org/10.2307/3857592

Gregory, A. J., Atkins, J. P., Midgley, G., & Hodgson, A. M. (2020). Stakeholder identification and engagement in problem structuring interventions. European Journal of Operational Research, 283(1), 321-340. https://doi.org/10.1016/j.ejor.2019.10.044

Jackson, G., Gallacher, S., Wilson, D., & McCann, J. A. (2017). Tales from the wild: Lessons learned from creating a living lab. In Proceedings of the First ACM International Workshop on the Engineering of Reliable, Robust, and Secure Embedded Wireless Sensing Systems (pp. 62-68). https://doi.org/10.1145/3143337.3143342

Lai, H. J., Kuan, Y. S., & Hu, K. K. (2009). The service science exploitation and experimental design on a city level innovation: A practice of living lab on Taipei City

ISSN: 1696-8352

intelligent life scheme. In 2009 IEEE International Conference on Industrial Engineering and Engineering Management (pp. 1263-1267). IEEE. https://doi.org/10.1109/IEEM.2009.5373006

Leminen, S., Nyström, A. G., & Westerlund, M. (2020). Change processes in open innovation networks–Exploring living labs. Industrial Marketing Management, 91, 701-718. https://doi.org/10.1016/j.indmarman.2019.01.013

Mazzuco, E. (2020). Processo de identificação de stakeholders em um living lab. (Trabalho de Conclusão de Curso). Curso de Graduação em Engenharia de Materiais, Universidade Federal de Santa Catarina - UFSC. Florianópolis, SC, Brasil. https://via.ufsc.br/wp-content/uploads/2021/01/TCC-Eduardo-Mazzuco-Processo-de-identifica%C3%A7%C3%A3o-de-stakeholders-em-um-Living-Lab.pdf

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. Academy of management review, 22(4), 853-886. https://doi.org/10.2307/259247

Müller, C., Hornung, D., Hamm, T., & Wulf, V. (2015, April). Practice-based design of a neighborhood portal: Focusing on elderly tenants in a city quarter living lab. In Proceedings of the 33rd annual ACM conference on human factors in computing systems (pp. 2295-2304). https://doi.org/10.1145/2702123.2702449

Nesterova, N., & Quak, H. (2016). A city logistics living lab: a methodological approach. Transportation Research Procedia, 16, 403-417. https://doi.org/10.1016/j.trpro.2016.11.038

Niitamo, V. P., Kulkki, S., Eriksson, M., & Hribernik, K. A. (2006). State-of-the-art and good practice in the field of living labs. In 2006 IEEE international technology management conference (ICE) (pp. 1-8). IEEE. https://doi.org/10.1109/ICE.2006.7477081

Niitamo, V. P., Westerlund, M., & Leminen, S. (2012). A small-firm perspective on the benefits of living labs. https://timreview.ca/sites/default/files/article_PDF/Niitamo_TIMReview_September2012.pdf

Pacheco, C., & Garcia, I. (2012). A systematic literature review of stakeholder identification methods in requirements elicitation. Journal of Systems and Software, 85(9), 2171-2181. https://doi.org/10.1016/j.jss.2012.04.075

Parent, M. M., & Deephouse, D. L. (2007). A case study of stakeholder identification and prioritization by managers. Journal of business ethics, 75(1), 1-23. https://doi.org/10.1007/s10551-007-9533-y

ISSN: 1696-8352

Perrault, E. (2017). A 'names-and-faces approach'to stakeholder identification and salience: A matter of status. Journal of Business Ethics, 146(1), 25-38. https://doi.org/10.1007/s10551-015-2929-1

Quak, H., Lindholm, M., Tavasszy, L., & Browne, M. (2016). From freight partnerships to city logistics living labs–Giving meaning to the elusive concept of living labs. Transportation Research Procedia, 12, 461-473. https://doi.org/10.1016/j.trpro.2016.02.080

Salado, A., & Nilchiani, R. (2013). Contextual-and behavioral-centric stakeholder identification. Procedia Computer Science, 16, 908-917. https://doi.org/10.1016/j.procs.2013.01.095

Sharp, H., Finkelstein, A., & Galal, G. (1999, September). Stakeholder identification in the requirements engineering process. In Proceedings. Tenth International Workshop on Database and Expert Systems Applications. DEXA 99 (pp. 387-391). IEEE. https://doi.org/10.1109/DEXA.1999.795198

Ståhlbröst, A., Bergvall-Kåreborn, B., & Ihlström-Eriksson, C. (2015). Stakeholders in smart city living lab processes. In Americas Conference on Information Systems: 13/08/2015-15/08/2015. Americas Conference on Information Systems. https://www.diva-portal.org/smash/get/diva2:1006027/FULLTEXT01.pdf

Ulrich, W. (1983). Critical heuristics of social planning: A new approach to practical philosophy. https://isfcolombia.uniandes.edu.co/images/2019-intersemestral/14_de_junio/Ulrich_W._1987.pdf

Vérilhac, I., Pallot, M., & Aragall, F. (2012, June). IDeALL: Exploring the way to integrate design for all within living labs. In 2012 18th International ICE Conference on Engineering, Technology and Innovation (pp. 1-8). IEEE. https://doi.org/10.1109/ICE.2012.6297699

Wang, W., Liu, W., & Mingers, J. (2015). A systemic method for organisational stakeholder identification and analysis using Soft Systems Methodology (SSM). European Journal of Operational Research, 246(2), 562-574. https://doi.org/10.1016/j.ejor.2015.05.014

Wolfe, R. A., & Putler, D. S. (2002). How tight are the ties that bind stakeholder groups?. Organization science, 13(1), 64-80. https://doi.org/https://doi.org/10.1287/orsc.13.1.64.544

Xie, X., & Wang, H. (2021). How to bridge the gap between innovation niches and exploratory and exploitative innovations in open innovation ecosystems. Journal of Business Research, 124, 299-311. https://doi.org/10.1016/j.jbusres.2020.11.058

ISSN: 1696-8352

Zheng, L. J., Fan, Y., Wang, H., & Liu, W. (2021). Born innovator? How founder birth order influences product innovation generation and adoption in entrepreneurial firms. Journal of Business Research, 136, 414-430. https://doi.org/10.1016/j.jbusres.2021.07.047

Zheng, L., Ulrich, K., & Sendra-García, J. (2021). Qualitative comparative analysis: Configurational paths to innovation performance. Journal of Business Research, 128, 83-93. https://doi.org/10.1016/j.jbusres.2021.01.044