

Theory and evidence of customer involvement in sustainable entrepreneurship

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ABSTRACT

Customer involvement (CI) has emerged as a crucial strategy for sustainable ventures, where economic viability and positive societal or ecological impact must be balanced. This article provides an examination of CI through the lenses of the lean start-up methodology and resource dependence theory. It argues that CI can be leveraged not only to obtain timely feedback but also to manage critical external resources—particularly in resource-scarce and dynamic markets. The article further explores how CI can be adapted and expanded in the context of sustainability-oriented ventures, and how real start-ups from the field of sustainable entrepreneurship deal with it in view of heightened scrutiny regarding authenticity, ethics, and long-term impact. By integrating diverse stakeholder feedback and emphasizing transparent, participatory processes, such ventures can transform CI into a normative and system-level engagement mechanism. The resulting insights underscore the value of CI for sustainable-oriented start-ups, offering guidelines for implementation and drawing theoretical implications.

KEYWORDS

Sustainable entrepreneurship; customer involvement; lean start-up; resource dependence theory

Introduction: Customer involvement as organizational attitude

Customer involvement (CI) is a key component of process- and marketing-oriented business strategies, emphasizing the dependency of companies on their customers in strategic decision making (Chang et al., 2022). Given transformative market dynamics and growing corporate interest in directed innovation development, integrating customer feedback into product and service creation has become increasingly critical (Piller et al., 2010). CI enhances customer orientation and advances customer relationship management through sustained interaction between firms and their customers (Lau, 2011; Melander, 2019; Menguc et al., 2014). The methodological origins of CI lie in marketing management, a field that has prioritized customer company communication for decades and remains integral to contemporary business practice.

Within this context, CI is central to the customer development framework, which advocates systematic engagement with the target audience to iteratively

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validate core business assumptions (Blank & Dorf, 2015; York & Danes, 2014). The widespread adoption of the lean start-up methodology has further solidified CI as a foundational principle in establishing and refining business models. Lean start-up emphasizes cycles of learning and adaptation based on direct customer input (Bortolini et al., 2021; Ries, 2017; Shepherd & Gruber, 2020). The approach combines various tools and techniques to facilitate targeted company formation and business model innovation and fundamentally relies on the build measure learn loop, in which minimum viable products (MVPs) are used to gather actionable feedback from customers, thereby driving the evolution of offerings (Moogk, 2012).

In practice, CI can be implemented through various methods. Customer surveys and feedback collection, frequently conducted via MVPs, are prominent examples (Moogk, 2012). This direct participation allows customer opinions to influence product and service development from the outset, helping to ensure that final offerings align with actual market expectations. The process can be applied to both business-to-consumer and business-to-business contexts, underscoring the broad relevance of customer engagement. In this iterative model, companies systematically test assumptions to build trust, strengthen long-term relationships, and solidify their position in the market (Lundkvist & Yakhlef, 2004).

Empirical evidence underscores the positive impact of customer-oriented development. Studies indicate that thoroughly incorporating customer needs and preferences can significantly enhance product and service quality while reducing failure risk (Chang et al., 2022; Melander, 2019). In manufacturing contexts in particular, the active use of customer feedback generates new knowledge and improves process innovation performance, with beneficial effects throughout the entire value chain (Chang et al., 2022). Early engagement establishes the groundwork for robust customer business relationships, providing mutual benefits to companies and supporting higher product success rates (Melander, 2019).

To implement customer derived insights into the creation process effectively, companies must dedicate suitable resources to ensure a smooth transfer (Gruner & Homburg, 2000). Resource availability is therefore a strategic imperative rather than merely a logistical concern. It enables firms, especially start-ups, to convert customer information into tangible enhancements in their operations and offerings. In this framework, CI becomes a critical strategic asset, particularly for new enterprises seeking to establish a foothold and gain a competitive advantage in dynamic markets.

As will be shown later, this applies to an even greater extent to sustainable entrepreneurship. This perspective invites a theoretical interpretation of CI through the lens of resource dependence theory, which emphasizes the importance of aligning a firm's actions with the interests of external stakeholders. The next section therefore examines the operational implications of CI within the lean start-up methodology, illustrating how iterative, customer-driven

processes can facilitate product-market fit and sustained growth in sustainable entrepreneurship ventures.

The article integrates CI, lean start-up management, and resource dependency theory into sustainable entrepreneurship, referencing corresponding practical evidence from qualitative surveys. The analysis closes with a discussion of the opportunities that customer involvement offers for sustainable entrepreneurship and draws some implications. It emphasizes the strategic leverage and operational complexities encountered in practice.

Research questions and methodology

This article employs a conceptual-theoretical methodology, drawing from well-established research in entrepreneurship, marketing, innovation management, and social impact studies. It integrates two analytical frameworks.

The lean start-up methodology emphasizes hypothesis-driven development, rapid experimentation through MVPs, and continuous feedback loops. Resource dependence theory investigates how external resources, particularly those controlled by stakeholders, impact organizational strategies and emphasizes the importance of managing dependency relations.

These two principles can be applied to sustainable start-ups under significantly different contextual conditions. It is important to extend these existing findings to sustainable entrepreneurship and specify them accordingly. Therefore, our central research questions are:

RQ1: What are the interconnections between CI, lean start-up, and resource dependence theory in terms of sustainable entrepreneurship?

RQ2: In what ways can CI help legitimize entrepreneurial activity in sustainability-sensitive markets?

RQ3: How can CI be adapted for sustainable entrepreneurship?

This approach synthesizes the current state of research to derive recommendations that are theoretically legitimate for the practical design of sustainable entrepreneurship.

To address these research questions, a multistage process was utilized. First, a literature search was conducted for recent articles showing the state of the art in CI and lean start-up research (for basic overviews, see Ike, 2025; Rosário et al., 2022). The second step involved providing this body of findings with a theoretically sound foundation using resource dependence theory (Pfeffer & Salancik, 2003). The third step involved analyzing the problems associated with the specific characteristics of sustainable entrepreneurship and translating them into the context of CI (Ike, 2025; Rosário et al., 2022). Describing the associated features and challenges helped unveil differences and similarities with the lean start-up method in other industries. To illustrate the conceptual

and theoretical considerations, we refer to some real-life examples from Germany, from which we can derive actionable recommendations for practitioners and policy makers in the fourth step.

Theoretical foundation: Resource dependence theory

Despite its widespread adoption, the lean start-up methodology lacks a strong theoretical foundation (Shepherd & Gruber, 2020). Primarily developed from practitioner insights and anecdotal evidence, the framework has been criticized for its limited empirical validation (Harms & Schwery, 2020) and inconsistent methodological definitions (Leatherbee & Katila, 2020).

However, CI aligns closely with resource dependence theory, providing theoretical grounding for lean start-up practices. This theory emphasizes identifying, managing, and securing external resources and asserts that organizational behavior is shaped by dependencies on external actors (Pfeffer & Salancik, 2003). According to this theory, organizations must strategically acquire and safeguard essential resources to maintain viability and performance. The extent to which an organization is dependent on external resources is determined by three factors (Pfeffer & Salancik, 2003): the importance of a resource in the organization's processes, the availability and scarcity of the resource, and the allocation power of the resource provider.

In terms of CI, this means: First, it is evident that organizations rely not only on financial backing, technologies, and expertise, but also on customer insights that reflect evolving market needs and preferences. They are strongly dependent on the customers themselves and on information about their constantly changing needs and requirements (dependence on external resources). Second, the limited access to critical resources necessitates strategic approaches to acquiring and integrating them, particularly in the selection and engagement of customers for product development. Because resources are limited, access must be organized and designed. In the case of CI, this is particularly relevant to the question of how customers can be integrated into development processes (resource scarcity). Third, as firms establish dependency relationships with external resource providers, the optimization of access to customer insights while maintaining strategic flexibility becomes problematic. Regarding CI, obtaining customer information must be organized to the required extent. Various strategies can be employed, such as cooperation, contracts, or developing alternative customer relationships (dependency relationships).

Understanding the external environment is crucial for assessing resource availability and developing responsive strategies. This reinforces the necessity of analyzing customer insights within market dynamics. Resource dependence theory emphasizes the importance of analyzing the external environment to understand resource availability and develop appropriate strategies. Therefore,

information about markets and target groups is a central component of analyzing the external environment.

Sustainable entrepreneurship

Sustainable entrepreneurship is a business practice that unites environmental, social, and economic objectives. Through innovative business models, it supports sustainable development in society and the environment (Fichter et al., 2023). Its key feature is not maximizing monetary profit but creating value for people, the planet, and the economy. Unlike other forms of entrepreneurship, it follows the triple bottom line, equally emphasizing environmental, social, and economic sustainability (Belz & Binder, 2015; Elkington, 1997; Schaltegger & Wagner, 2011).

Sustainable business ideas and products address global challenges such as climate change, resource scarcity, and social inequality (Cohen & Winn, 2007; Dean & McMullen, 2007). The success of such ventures is measured by their long-term environmental and social impact, not just economic results. This process spans from identifying socioecological problems to developing resource-saving innovations and integrating them into corporate strategy (Shepherd & Patzelt, 2011).

The fundamental theories of sustainable entrepreneurship integrate insights from the field of entrepreneurship research, sustainability theory, and innovation management. In addition to the triple bottom line, significant models encompass the opportunity approach, which prioritizes the identification and leveraging of opportunities for sustainable innovation (Shane & Venkataraman, 2000), and the market failure concept, which elucidates environmentally or socially deleterious market incentives and pursues corrective innovations (Dean & McMullen, 2007).

In sum, sustainable entrepreneurship merges economic innovation, social responsibility, and environmental sustainability. Research emphasizes its transformative potential for sustainable structural change, driven especially by start-ups and new business models. Current studies also highlight the central role of collaboration among actors (Rosário et al., 2022), which sustainable entrepreneurs can foster by engaging with relevant communities, markets, and target groups.

Lean start-up method

The resource dependence theory provides a theoretical foundation for lean start-up methodologies by highlighting the strategic significance of CI in business model development. Lean start-up approaches leverage customer resources, such as feedback loops, early adopters, and organic product diffusion. Customers are treated as cocreators, with their ideas and preferences

directly influencing product and service offerings. Iterative feedback loops enable targeted, customer-centric innovation (Mansoori, 2017; Ries, 2017).

Lean start-up principles prioritize streamlined processes and iterative learning, necessitating continuous customer insights to ensure market relevance. Table 1 outlines core lean start-up components and their alignment with CI principles (Schulte & Wagenknecht, 2023).

Lean start-up element	Corresponding CI practice
Hypothesis-driven development and validated learning	Continuous product testing to refine market fit (Newbert et al., 2020; Silva et al., 2020)
Feedback loops	Systematic customer feedback collection to guide development (Chen et al., 2021)
MVP	Early-stage functional prototypes to gather user insights (Blank & Dorf, 2015; Moogk, 2012)
Cocreation and codesign	Collaborative innovation involving customers in prototyping (Rautela et al., 2021)
Lean and agile management	Resource-efficient development balancing experimentation (Bortolini et al., 2021)
Effective collaboration	Selective engagement of valuable customer segments (Melander, 2019)
Customer development method	Continuous analysis of customer needs to inform strategy (Blank, 2013)
Persevere or pivot	Decision making based on feedback-driven evaluation (Bortolini et al., 2021)

To illustrate these considerations, a few practical examples from sustainable entrepreneurship are given below.

In relation to *hypothesis-driven development* in sustainable entrepreneurship, a start-up developing biodegradable packaging might hypothesize that local organic food producers would prefer this packaging if it reduced waste disposal costs. To validate this hypothesis, the start-up would pilot the packaging with a select group of farmers, collect quantitative feedback on cost savings, and gather qualitative data on user experience. Then, they would iterate the packaging design according to the findings. This ensures that the business model aligns with validated customer preferences and sustainability goals while minimizing the waste of resources on untested concepts.

With regard to *feedback loops*, a start-up developing a mobile app to track individual carbon footprints might engage early adopters to provide feedback on data accuracy, interface usability, and motivational features. The development team may incorporate this input into regular software updates. These tight feedback loops cultivate a product that is increasingly aligned with user expectations, promoting environmental awareness and facilitating user retention and positive ecological behaviors.

In accordance with the features of an *MVP*, a sustainable fashion start-up could initiate its operations by offering a limited collection of ethically sourced, organic cotton tees through a basic e-commerce platform. By testing customer reactions, purchase behavior, and feedback on product comfort and design, the start-up can efficiently refine future collections, balancing ecological considerations with market demand. This approach prevents the costly production of unproven designs on a large scale.

To utilize *cocreation and codesign*, a start-up focused on sustainable urban gardening could host participatory workshops in which community members and local environmental experts would collaboratively design modular, upcycled planter boxes optimized for small spaces. This approach enhances product relevance and fosters community engagement and environmental stewardship, thereby extending the start-up's impact beyond mere product sales.

In line with *lean management* principles, a start-up developing solar-powered outdoor lighting may organize its research and development and marketing efforts into short sprints. This enables teams to quickly prototype lighting units, collect user feedback from eco-conscious consumers, and adjust product features, such as brightness, durability, and price, to optimize customer satisfaction and sustainable manufacturing practices.

In terms of *effective collaboration*, a start-up creating biodegradable packaging could partner with local recycling firms, environmental nongovernmental organizations (NGOs), and retailers to codevelop end-of-life solutions. This ensures that products perform well and fit regional waste management infrastructures, thereby minimizing environmental impact through joint expertise and resource sharing.

Prior to the launch of a community solar energy platform, the *customer development method* may lead to conducting interviews with homeowners, businesses, and municipal stakeholders. This approach is designed to identify potential barriers to solar adoption, such as financial constraints or regulatory complexity. These insights can then be used to guide the design of platform features, pricing models, and educational content, thereby increasing adoption and effectively supporting sustainability goals.

When evaluating current strategy between *persevering or pivoting*, a food waste reduction start-up that initially targets restaurants may pivot to focus on supermarkets, where logistical challenges are fewer, after receiving market feedback indicating high acquisition costs. This allows them to increase their impact and scalability while staying true to their mission of reducing food waste.

Synopsis and evidence

In light of the aforementioned conceptual and theoretical considerations, strategic business practices can now be systematically described and categorized. The following structure addresses essential considerations that lead to CI-related modes of action in those start-ups. In the context of sustainable entrepreneurship, each category is accompanied by its respective phenomenon, illustrating the integration of targeted stakeholder engagement with overarching CI methodologies. This approach underscores the capacity of sustainable ventures to align their innovations with ecological and social imperatives, diminish resource dependencies, and foster stakeholder trust.

Formalizing CI in sustainability-oriented learning loops

Learning loops are cyclical processes in which assumptions and hypotheses are tested through targeted experiments and reviewed based on feedback, ultimately leading to reflection (Shepherd & Gruber, 2020). Sustainability-oriented start-ups must consider economic, ecological, and social dimensions. Formalizing learning loops is essential in CI because it enables structured, repeated, and verifiable learning, providing the basis for targeted improvements. Through validated customer feedback and real market reactions, sustainable learning loops help verify and further develop assumptions about the actual sustainability potential of a product or process (Bocken & Snihur, 2020; Ike, 2025).

Formalization ensures that goals are clearly, specifically, and measurably defined, giving each learning cycle a clear objective and evaluation criteria, making it scalable. For sustainable start-ups, this means establishing structured CI systems that assess market viability and ethical or ecological considerations, or using participatory workshops and testing formats to involve users in conceptualizing broader social or environmental value (Mortimer et al., 2018). These strategies enable start-ups to learn from mistakes more quickly, adapt their value propositions to customer needs efficiently, and optimize resource usage. Consider a business model that is focused on reducing CO₂ emissions by avoiding returns to retailers for online purchases and organizing direct shipping to new buyers. Implementing learning loops through continuous customer interaction and data evaluation can be a useful strategy in such a case.

Strategic stakeholder mapping beyond the customer

Strategic stakeholder mapping clarifies the multitude of stakeholders and prioritizes them according to their level of influence and interest. This enables the targeted use of resources. This process ensures that sustainability initiatives are aligned with the needs and expectations of relevant stakeholder groups and are not developed in isolation. Involving various stakeholders promotes acceptance, trust, and cooperation, which is crucial for sustainable start-ups aiming for long-term impact. A broader stakeholder perspective considers not only customers, but also the environment, society, employees, suppliers, local communities, investors, and regulatory authorities. Thus, sustainable start-ups can ensure their business models are environmentally, socially, and economically responsible; risks are identified and minimized early on; and opportunities for cooperation and positive impact are exploited (Lyon et al., 2020; Rathobei et al., 2024).

For sustainable start-ups, this means identifying a broader array of resource holders, such as local communities, NGOs, and advocacy groups. Another option is developing context-sensitive CI channels that allow for inclusive, culturally aware engagement. For instance, a business specializing in the

development of urban farming concepts would be well advised to engage with a diverse set of stakeholders, encompassing consumers, local authorities, urban planners, ecological initiatives, and landowners.

Cocreation as a vehicle for systemic change

Once strategic stakeholders beyond the customer have been identified, it is considered particularly important to involve them in cocreation processes. Cocreation is seen as a vehicle for systemic change because sustainable innovations often require far-reaching changes in complex systems that cannot be realized by one actor alone. The cocreation process makes it possible to integrate different stakeholder groups and their resources, knowledge, and networks and to develop solutions jointly that have a systemwide impact. Through iteration, collective learning, and the combination of diverse skills, cocreation aims to create adaptive, resilient systems that enable sustainable change in the long term. This also promotes the transformation of entire value chains, policy areas, or social systems toward greater sustainability (Ansell et al., 2022; De Silva et al., 2023).

Sustainable start-ups can use this to foster a sense of ownership among stakeholders. Open communication through collaborative platforms or traceability tools about how feedback is used in product or service iterations builds trust and reinforces the willingness to continue participating. Therefore, it is essential to identify the relevant stakeholders with similar or conflicting goals at the earliest stage of the development process in order to determine the development partnerships that can be entered into.

Feedback loops for impact validation

Feedback loops enable sustainable start-ups to react quickly to market and environmental changes, improve the effectiveness of their impact strategies, and scale effectively. These loops are essential for building stakeholder trust because they clearly and transparently demonstrate how and whether positive impacts are being achieved.

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Trust and transparency through participatory design

These measures not only create transparency, but also build trust. Relevant stakeholders are involved at such an early stage that they can follow developments and intervene in the design (Momme et al., 2025). Community values,

long-term perspectives, and fair decision making are particularly relevant in the area of sustainability. They are particularly well supported by participatory approaches (Smith & Iversen, 2018).

Participation strengthens democratic values, because involving users and stakeholders in the design process creates democratic legitimacy, which generates both trust and sustainable acceptance. Participants are not only consumers, but also cocreators, which increases commitment to sustainable solutions. Participatory design enables conflicts of interest to be identified at an early stage and offers scope for ethically sound solutions. Openness about design decisions and their effects supports trust in the company and its sustainable intentions.

Sustainable start-ups can utilize this to foster a sense of ownership among stakeholders. Open communication through collaborative platforms or traceability tools about how feedback is used in product or service iterations builds trust and reinforces the willingness to continue participating. Local community energy societies, for instance, may influence the rules for the distribution of solar energy surpluses through a cooperative, democratic process. This approach fosters a culture of democratic engagement, leading to greater trust and shared understanding.

Value-based community building

Value-based community building is essential for sustainable start-ups because it fosters trust, commitment, and loyalty by creating communities based on shared values (Yang et al., 2025). This value orientation enables sustainable start-ups to establish authentic connections with their members, customers, and partners, fostering a shared long-term mission. Communities based on shared values foster deeper personal connections to the start-up's mission. Members are more motivated to engage actively with and support sustainable initiatives because their beliefs align with the start-up's goals. A clearly defined value base enables coherent and harmonious communities. In a highly competitive environment, a strong value base helps start-ups differentiate themselves visibly and credibly.

Building a value-based community is essential for sustainable start-ups because it strengthens identification with the company's mission and establishes the social foundation for long-term success and positive social impact (Olteanu & Fichter, 2022). Start-ups can use corporate identity as a vehicle for building long-term alliances around shared goals rather than for mere transactional interactions. An example of this would be a business designing sustainable feminine hygiene products, with a particular focus on young women who exhibit a commitment not only to sustainable hygiene products, but also to products that are extra gentle on the skin.

Discussion

Start-ups face resource constraints, particularly in capital and market intelligence (Pfeffer & Salancik, 2003; Zahra, 2021). Achieving optimal product–market fit requires access to external insights (Chang & Taylor, 2016; De Jong et al., 2021), yet early-stage ventures lack historical data to guide innovation (Schulte & Wagenknecht, 2022).

CI enables start-ups to drive customer-centric innovation while fostering transparent communication. However, iterative development processes entail potential risks, including increased communication costs, dependency on external actors, potential loss of proprietary innovation, and heightened transparency risks (Bican et al., 2017; Jean et al., 2014). Furthermore, customer relationships may deteriorate due to misaligned expectations or unresolved disputes. Despite these risks, CI enhances market positioning, competitiveness, and long-term sustainability. Integrating CI within a holistic risk management framework ensures that innovation processes remain efficient, cost-effective, and customer-driven, ultimately supporting start-ups in developing robust, scalable business models.

In terms of sustainable entrepreneurship, CI unfolds a particularly relevant and beneficial outcome: Strategic CI provides start-ups with a sustainability mission access to essential information and relationships that mitigate the risk of market misalignment. By engaging users and stakeholders directly, start-ups can refine both their commercial offerings and the social or ecological dimensions of their value proposition.

In viewing customers and stakeholders as critical external resource holders, resource dependence theory underscores the strategic significance of CI. If a sustainable venture is heavily dependent on external validation or user-driven network effects, acquiring and maintaining these relationships becomes paramount. CI thus serves not only as a tool for risk reduction but also as a vehicle for cocreation and trust-building, particularly relevant when addressing societal challenges.

Lean start-up principles—validated learning, rapid prototyping, iterative feedback—pair well with sustainability goals when underpinned by robust stakeholder engagement. CI offers a continuous flow of insights that guide product design, business models, and impact measurement. Rapid experimentation allows ventures to test assumptions about social or environmental benefits without expending excessive resources.

CI can yield stronger stakeholder relationships, more accurate product–market alignment, and innovation that resonates with ethical or ecological priorities. It can also legitimize new ventures in sustainability-focused markets. However, overreliance on limited or unrepresentative stakeholders may distort feedback loops, and cocreation processes can expose proprietary knowledge if not managed carefully. Furthermore, the emphasis on customer-

driven iterations may lead a start-up to pivot away from its long-term social or environmental objectives unless it maintains a clear strategic vision.

CI in sustainable entrepreneurship broadens its scope beyond typical end-user feedback, incorporating community voices, advocacy organizations, and directly affected groups. This expanded stakeholder engagement is crucial for addressing systemic challenges like climate change or social equity. Moreover, ventures can leverage CI for impact validation, capturing measurable changes in behavior or improved conditions for marginalized communities. By involving stakeholders in these evaluations, sustainability-oriented start-ups enhance transparency and legitimacy.

Implications and conclusion

This work makes a contribution to the field of entrepreneurship research by elaborating on CI as a conceptual interface between lean start-up approaches and resource dependence theory. CI is particularly relevant in the context of sustainable entrepreneurship, as entrepreneurial decisions are increasingly made under conditions of normative expectations with regard to social justice, ecological limits, and long-term public welfare. By situating CI in a normative and systemic engagement model, the management of external resources is expanded beyond a purely market-related perspective to a pluralistic stakeholder landscape in which legitimacy, trust building, and impact orientation are key success criteria.

In practical terms, this has several implications for sustainability-oriented start-up projects. First, start-ups should institutionalize CI not only as a tactical feedback tool, but also as a structured governance practice. Specifically, this involves establishing regular codesign formats (for example, workshops, living labs, digital participation platforms) in which customers, local communities, NGOs, and other stakeholders are systematically involved in early development phases. Such arrangements enable the joint identification of conflicting goals, the codefinition of solutions, and the establishment of relationships of trust, which are particularly critical for sustainable business models.

Second, it is imperative that CI in sustainable entrepreneurship is explicitly linked to impact metrics. Lean start-up cycles (build–measure–learn) can be supplemented with socioecological indicators, such as emission reduction, resource efficiency, opportunities for participation, or local quality of life, in order to pursue economic and noneconomic targets simultaneously. This makes CI a vehicle that not only iteratively checks product-market fit, but also “impact fit,” and supports evidence-based adjustments to business models. Sustainable start-ups are thus able to build legitimacy with critical stakeholders by systematically integrating their feedback into the definition and measurement of their impact goals.

Third, the integration of CI with resource dependence theory suggests that stakeholders should be explicitly understood as resource providers whose knowledge, networks, and normative support go beyond their mere role as customers. Consequently, sustainable start-up projects can employ CI to establish strategic alliances with civil society organizations, local authorities, or industry leaders, thereby accessing additional financial, political, or symbolic resources. In practical terms, this implies the establishment of long-term cooperation structures, such as project partnerships, real-world laboratories, or joint pilot projects, rather than relying exclusively on short-term market interactions.

Furthermore, there are clear implications for intermediaries, such as universities, accelerators, and incubators. Entrepreneurship education should not only address CI in the context of sustainability in theory, but also make it tangible through real co-innovation projects with local authorities, companies, and civil society actors. Support programs and accelerator structures can anchor CI-based validation processes (for example, documented cocreation steps, transparent feedback loops, involvement of marginalized groups) as explicit funding criteria, thereby creating incentives to implement systematically participatory innovation practices. In addition, consulting and mentoring services should build competencies in stakeholder management, impact assessment, and participatory business model innovation to support founders in operationalizing CI in the context of sustainability.

Finally, a policy-relevant dimension is identifiable. Political decision makers can use regulatory and financial incentives to create framework conditions in which CI is anchored as an integral part of sustainable innovation policy. Such incentives may take the form of funding lines explicitly supporting participatory innovation formats, living labs, or open real-world laboratories. The development of guidelines or standards for responsible CI in sustainable entrepreneurship could help to increase the quality and transparency of participation processes and institutionally consolidate their role in sustainability and innovation strategies. The article suggests that CI creates particular added value when it is understood as an integral governance principle that combines entrepreneurial experimentation with collective value creation. This addresses both economic and social transformation goals.

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