The discussion on social entrepreneurship is relevant due to social demands that have not been met by government agencies and the market. However, there is a lack of information for those who wish to undertake and meet these demands when they arise in their communities. A social business is like a multistakeholder project, and its success depends on the engagement of all these parties. This article aims to disseminate social technologies that can be applied to promote this engagement. The research was carried out through an exploratory review of the literature on the Scopus, Scielo and Web of Science platforms, specialized websites, and manuals where social technology methods with potential to be applied in the development of social businesses were highlighted. These methods were listed and presented by their definitions and application examples in academia. Finally, they are compared to highlight their main attributes. This research consolidates information so that social entrepreneurs can access the tools necessary to engage their stakeholders. This information can help and encourage researchers to investigate this topic and other possible methodologies in the context of social impact. Future studies may deepen the application of these, or other methods not studied in this work.

Keywords: Social technology, stakeholder engagement, social entrepreneurship, collaborative design
1. Introduction

Social entrepreneurship emerged to develop innovative solutions that meet social demands not met by public services, markets, or philanthropic initiatives (Santos, 2012). Social business combines the positive impact of philanthropy with the means and financial sustainability of entrepreneurship. Furthermore, they aim to solve a societal problem, such as poverty and health, and not to maximize profit (Yunus, 2021).

Social entrepreneurship businesses transform the community around them and are more efficient when there is engagement of those who want to be involved in this social transformation. Authors point out benefits arising from collaborative practices used in solidarity economy enterprise networks, such as learning, legitimacy, economic gains, empowerment of individuals, among others (Pirotti & Bitencourt, 2017). Furthermore, sharing and collectivity influence the ecosystem and may enhance projects in the creative and cultural industry (Barreto, 2020).

Similarly, social technologies require the participation of their beneficiaries, as it is necessary to incorporate community members in the local planning and implementation process, and such social transformation processes involve issues of cultural nature, requiring the involvement of local actors in the design and execution stages of social technologies for successful implementation (Barretto & Piazzalunga, 2012).

Literature states that further research on engagement and management of distinct stakeholder groups is important to improve a business' performance (Valle & Sarture, 2022). These authors point out that engagement influences the success of a collaborative project, but the tools applied to promote it in social entrepreneurship still need to be better disseminated. In fact, although there is a considerable number of publications on the topic "social entrepreneurship", there is still a lack of material in major databases that demonstrate in a practical way how to engage stakeholders in fostering this type of business. Thus, further research and discussions are encouraged to better clarify and enhance this theme (Carmona, 2018; Périgo, 2018).

Given the relevance of social entrepreneurship (De Oliveira, 2018) and the gaps presented, the objective of this study is to seek social technologies that contribute to the engagement of stakeholders in project planning in social enterprises. To this end, an exploratory literature review on the platforms Scopus, Scielo and Web of Science, websites and specialised manuals was conducted. These technologies have similar characteristics and can take several forms. In this article those social technologies that are considered as methods are addressed.
The results of this study can point directions for future research in the area and contribute to the dissemination of social technologies that can be applied to engage stakeholders in the development of a social business. Thus, this work acquires its scientific and practical importance.

2. Theoretical background

2.1 Social technologies

Social technology aims to solve social problems through popular knowledge and problems of local origin based on creativity and the availability of resources in the locality, which is why it is considered an alternative to conventional technology (De Oliveira, 2018; Da Silva, 2012). Thus, this type of technology is an important tool for the promotion of social inclusion and strategy for sustainable development in the long term (Dias, 2013).

The debate on sustainable development is moving towards a demand-driven governance approach, whereby stakeholders, any group or individual that can affect or is affected by the achievement of a corporation's purpose (Freeman, 1984), should participate in the decision-making process at different levels (Schneider, 1999). Therefore, the development of social technology is in line with this debate since the construction of solutions in a collective and participatory way is a characteristic attribute of this type of technology.

The integration, improvement and solution of problems and the production of technoscientific knowledge for sustainability are positive aspects linked to the use of social technology, especially in Solidarity Economic Enterprises (Santos et al., 2020). Therefore, its application involves various social actors who act autonomously and are not mere users of imported solutions or solutions produced by specialist teams (Rodrigues & Barbieri, 2008).

Engaging stakeholders implies working in collaboration to introduce the project, manage expectations and make decisions, among other benefits. This requires the use of soft skills such as active listening, interpersonal skills, and conflict management (Project Management Institute, 2021). Several tools can be used in order to solve different demands and social or economic realities with viable results and low impacts on nature (Fauaze et al., 2017).

This topic highlights the contribution of social technologies to social development by seeking to meet the needs of stakeholders in a collaborative and sustainable way, creating value and innovation. These technologies, when they generate social transformation, underpin the concept of social entrepreneurship (Rosolen et al., 2014), which will be better addressed below.
2.2 Social Entrepreneurship

A social enterprise is an entity that deals with social problems and differs from conventional corporations since the latter always perform profit maximization actions (Katsushi, 2020). The focus on dealing with social problems includes social purpose ventures, such as for-profit community development banks; and hybrid organizations composed of for and non-profit elements, for example the homeless shelters that start businesses to train and employ their residents (Dees, 2018).

Social enterprises have innovation as their main characteristic (Nicholls et al., 2006). This attribute is a response to complex challenges faced in social and environmental spheres (Webb, 2002) that require collective solutions and responses from organizations to achieve creative outcomes, where the main imperative is not only profit (Sinclair et al., 2018). Thus, creativity is perceived as a collective process that precedes greater interaction between individuals in situations that encourage the development of interpersonal skills of integration and collaboration (Dul et al., 2011).

A successful social entrepreneurship should contribute positively to society, especially to achieve social goals, promoting innovation and social transformation of societies in general (Dacin et al., 2011). Therefore, it is valid to seek a suitable methodology for building social entrepreneurship projects, as their design needs to identify the stakeholders' objectives and the external environment (Chou, 2018).

Some methodologies can come from social technologies because "Social technologies are a set of techniques, transforming methodologies, developed and/or applied in interaction with the population and appropriated by it, which represent solutions for social inclusion and improvement of living conditions" (ITS Brasil, 2004, p. 26). They can also be applied to the development of social enterprises, considering that both social technology and social enterprises have a common goal of transforming society.

2.3. Collaborative project: social technology methods to create social enterprises

Cooperation with various stakeholders makes it possible to compensate for possible own deficits and, simultaneously, achieve more effectively and efficiently common project-based sustainability goals and individual corporate goals (Grunwald et al., 2021). Where dialogue is a way of collaboration when it shows that it provides the conversations, connections and combinations allowing new insights into virtually all types of collective endeavors allowing social learning and individuals, groups and organizations to grow in their understanding of...
different perspectives about the values of all involved (Schusler et al., 2003).

The creation stage of a social enterprise can be considered a project, considering that this term is defined as a set of temporary activities, carried out by a group of people, destined to produce a product, a service or unique results and with resources planned (Project Management Institute, 2021). Resources have limitations and considering that there is such a limitation in communities lacking adequate infrastructure, economically vulnerable, or in organizations that work to encourage the development of projects and social businesses, it is necessary that the applied methods are easy to understand and execute, in addition to demanding a lower cost. possible. Another factor is that each community has its own peculiarity, potential and demands, requiring versatility to allow for the necessary adaptations.

Social Technologies help institutions visualize their potential, meeting the demands of society in various segments, involving the community, and causing transformation (Nunes & Machado, 2020). Technologies can be used as steps in the realization of a concept (Hegger et al., 2007) where some restrictions and guidelines can contribute to the idea generation process achieving greater effectiveness, helping to achieve a greater balance of participation (Okhuysen et al., 2019). Mussi et al. (2020) highlight, in their collaborative project experience, that this type of project provokes participation and active interaction between designers and effective users, with exchanges of expertise and search for more assertive alternatives for the project together. However, it is worth mentioning that for a participatory project to be successful, self, and mutual recognition, dialogue and representation between the parties involved must be established (Cortés-Rico & Piedrahita-Solórzano, 2015).

3. Methodological procedures

Bibliographical research is carried out using theoretical references already analyzed and published in written and electronic media (Fonseca, 2002). In this research, an unstructured exploratory bibliographic study was carried out on how this topic had already been addressed in previous publications. In this method it is possible to collect a set of data in a broad way, being convenient when the study requires data widely dispersed in space (Gil, 2002).

Thus, inspired by Rosolen et al. (2014), was carried out with consultations to the Scopus, Scielo, Web of Science, Google Scholar databases, and websites or specialized manuals that address the theme related to social technology methods. From the documents identified, through the technique of inductive content analysis, it was possible to synthesize the information projected by methods of social technology with potential to be applied in the development of
social businesses, considering the engagement of stakeholders. This inductive approach to content analysis allows fragmented and not so consolidated scientific information to be researched and investigated methodologically (Elo & Kyngäs, 2008). As a result of this research, several social technology methods were found that aim to meet the desired objective.

4. Results and Discussion

The results obtained will be presented and compared in an objective manner, highlighting their main attributes. The methods found will be presented through their definition, main tools, and application examples.

4.1 Social technology methods found

4.1.1 Design Thinking

Design thinking can be understood as a human-centred approach to innovation that integrates human needs, technological possibilities, and requirements for business success (IDEO, 2016). It is a highly collaborative thinking model that seeks to dictate future behaviors and needs by experimenting with new points of view based on empathy, experimentation, and prototyping (SEBRAE, 2014), and can be divided into the following phases: Immersion (Understand the problem); Ideation (Create idea); Prototyping (Test idea); Development (Apply idea).

An example of application is cited by Gamman and Thorpe (2018) in the project undertaken in 2014 entitled "Project Makeright" which aims to teach Design Thinking for the development of a creative design and entrepreneurship centre with the aim of promoting inmate rehabilitation through collaborative design and manufacturing activities.

4.1.2 Oasis Game (Elos Philosophy)

This method promotes citizen mobilization for the realization of collective dreams. It considers the involvement of different actors, such as residents, NGOs, local government, leaders, and companies. It should be practiced in a fully cooperative way, proposing rules so that everyone can achieve victory (Elos Institute, 2014).

Marmentini and Pinheiro (2017) expose the Elos Philosophy in the pursuit of the objectives of the organization Support Group for Laryngectomized (GAL) that, with the support of the Oncology Research Center of Florianópolis (CEPON) sought to better understand its target audience, involve more health professionals willing to contribute and develop its
positioning in marketing and identity creation. These objectives were achieved, respectively, through data collection, formal invitations and presentation meetings, and partnership with a design agency.

4.1.3 Canvas Model

This tool draws the targeted business model in blocks that show how a company aims to make profit (figure 1). This model suggests that, through these blocks and strategic issues, any business can be modeled (Marmentini & Pinheiro, 2017). These blocks address the main areas of a business, listed as: customers, supply, infrastructure, and financial viability (Osterwalder & Pigneur, 2011).

Eppler et al. (2011) applied the Canvas model in their business model comparing it with other techniques, such as the use of objects and sketches. These authors reported that, in this particular case, the model improved collaboration, although it reduced the perception of creativity and the willingness to adopt the business model generated. However, Nunes and Machado (2020) present, in their study on the application of the Canvas model in social businesses, the potential of using this tool as a social technology by social entrepreneurs, recognizing that there are limitations and suggesting that more than one model be used for the execution of projects obtaining, in this way, the maximum performance.

4.1.4 Lego Serious Game

It is used to facilitate communication, thinking, and building problem solutions for individuals, teams, or organizations (Kristiansen & Rasmussen, 2015). According to Rasmussen, it can be applied to develop the potential of staff, teams, leadership, strategic planning, analyze scenarios in search of solutions and validate business models, among other potentialities.

On the official website of the method, it is presented that it consists of four steps, they are: i. The facilitator draws up questions and challenges; ii. Respond to the facilitator's questions and challenges, through models with specific LEGO® pieces for this application; iii. Participants should share their stories and views in order to solve the problem and make decisions; iv. Participants should reflect on the models and stories shared.

Moran et al. (2022) used the application of this tool to understand end-user views on legal structures in a social enterprise in Australia. According to the authors, this method promoted bottom-up insights into end-users' regulatory preferences. However, they point out that it has limitations regarding its feasibility but see opportunities for further exploratory
research on the effectiveness of this type of tool to assess end-user demands in various areas of law and regulation.

4.1.5 Dragon Dreaming

This Philosophy aims collaborative, creative and sustainable projects, promoting greater collaboration through the integration of assessment tools and collaborative planning based on the intentions of those involved (Machado et. al., 2021). It emerged from the practice of the Gaia Foundation in Western Australia to create projects, anticipate, and overcome blockages (Creative Commons Attribution, 2014). According to these authors, it promotes personal growth, the formation of communities of mutual support and service to the Earth, has practices that are easy to understand, without the need for formal training in project management.

Its stages are (Creative Commons Attribution, 2014): i) Dream: Share individual dreams among the group so that the dreamer is fully aware of the nature of the dream and can enrich it for the community; ii) Plan: Define objectives, missions and organize tasks, responsibilities, time and budget; iii) Doing: Carrying out what has been planned, being aware of adaptations to achieve the project's goals and objectives. iv. Celebrate: Reflect on the experience and lessons learned, give thanks, and acknowledge the effort made.

The Sebrae Reference Centre for Entrepreneurship Education (2019) states that this approach aims to deal with variables as subjective as dreams, insecurities or frustrations when undertaking. Machado, Barbuto and Croft (2021) describe that they used this method in the implementation of a participatory project in sanitation in their action research that aimed to describe and analyze the practical application of the tool in the relationship between solidarity economy, sanitation, and social technologies.

4.1.6 Theory of change

It consists of a diagram of the relationships between the initiative's strategies and the intended outcomes (Annie, 2004). This map organizes the changes intended by the social initiative and coordinates the results in a kind of causal chain (Mena, 2017).

Change is achieved by mapping long-term goals and identifying conditions and outcomes, and their relationship to their occurrence in an Outcome Framework that provides the basis for identifying what type of intervention will lead to the outcomes identified as preconditions for achieving the desired outcome. desired goal, linking activities to the anticipated changes (Center For Theory Of Change, 2022).
Pittocket al. (2020) presents an enterprise where this approach is evaluated in a project to transform smallholder farmers’ irrigation scheme in Mozambique, Tanzania, and Zimbabwe, promoting increased crop productivity and profitability, empowering farmers, effectively equity and promoting learning and social innovation. In this endeavor, the following long-term outcomes were mapped: increased food security, higher incomes, incentives for more sustainable water use. and as immediate outcomes: identification of options for more efficient water use, increased production and profitability, and stronger local institutions.

These authors concluded that the Theory of Change based on water productivity measured in terms of income and profits as an entry point has largely worked. They point out that the paradigm shift from subsistence irrigation to profit-oriented commercial production began to encourage profit-focused changes, authorities governed by policy changes, led to improved sustainability and better socio-economic outcomes.

4.1.7 Systems Thinking

This method aims to solve complex problems by understanding how the parts of a system relate to each other and to "the whole" (Ackoff & Addison, 2010), adopting different perspectives and finding meaning in their multiplicity (Boardman & Sauser, 2008). For it to have strength, it must be adopted based on its four foundations (Gharajedaghi, 2011): i. Holistic thinking (iteration of structure, function and process); ii. Operational Thinking (dynamics of multi-loop feedback systems, chaos and complexity); iii. Self-organisation and movement towards a predefined order (socio-cultural model); iv. Interactive design (new forms of realisation).

This approach can be applied by following these steps (Goodman & Karash, 2018): i) Telling the story: Thinking about the problem from each stakeholder's perspective; ii) Draw "behaviour over time" graphs: Observe behaviour over time and look for patterns; iii) Create a focus statement: Present image or question that illustrates the problem that is transitory; iv) Identify the structure: describe the systemic structures that are creating the patterns of behaviour that have been identified; v) Deepen the problem: Analyse the purpose of the system by creating imaginary models and links to connect the relationships with the larger system and highlight your own role in the situation; vi) Plan an intervention: Planning a structured solution.

Dzombak et al. (2014) discusses the use of 'systems thinking’ (as distinct from the term 'systems thinking') for the development of social enterprises, summarizing the principles of 'systems thinking' and illustrating its conversion. According to this author, this is a useful tool
for communities to deal with the complexity and chaos arising from social enterprises, establishing accountability negotiations, ensuring equity for all stakeholders, and facilitating the sustainability of the system.

4.1.8 Cooperation Pedagogy

This social technology is a set of knowledge and practices aimed at promoting a culture of cooperation in different environments (Brotto, 2013). It aims to create environments of cooperation that allow people to be who they really are and do what they can and are able to do in a teaching and learning space and has as principles (Teia Multicultural, 2021): i. “Co-existência”: the individual influences and is influenced by a universe that goes beyond what is perceived at the first moment or contact; ii. “Com-vivência”: recognition of differences and similarities allowing the exchange of information, behaviour and observation. iii. “Co-operação”: co-responsibility in human relations, perceiving the individual as being naturally cooperative. iv. “Comum-Unidade”: environment for Group Spirit that allows development through the sum of individual differences.

According to the Cooperation Project (2022), the Pedagogy of Cooperation is divided into processes, procedures, and practices where: The processes are inspired by ancient wisdom and tools such as Cooperative Games, Nonviolent Communication, Dragon Dream, Appreciative Inquiry, Meditative Practices, Oasis, among others; The procedures are: Circle and Centre; Cooperative Teaching; From simplest to most complex; Being Master and Learning; Starting and finishing together (Brotto, 2013).

Toledo and Kähler (2019) write about its application in the School of Government and Management of the Municipality of Mogi das Cruzes to promote a knowledge management method in projects and programs for a system that integrates teaching, research, evaluation, and innovation in the development of talents and public leaders. They point out that the aim was to understand cooperation and use this approach to focus on the cause of the complexity of public sector processes, emphasizing the importance of the citizen. Thus, this approach adopted change perspectives where the public in service is an active agent of transformation and innovation for social or commercial enterprises, or even business projects.

4.2 Analysis of the method

In this topic, the methods will be compared by the main perceived attributes: Promotes cooperation; Aims at personal development; Aims at meeting current and future needs;
Promotes empathy; Promotes experimentation/prototyping; Promotes creativity; No prior knowledge in project management; Uses templates/visual diagrams; Uses other social technology methods as inspiration. Table 1 compares the methods by their main attributes:

<table>
<thead>
<tr>
<th>Technology/Attribute</th>
<th>Promote cooperation</th>
<th>Aims at personal development</th>
<th>Aims to meet current and future needs</th>
<th>Promote empathy</th>
<th>Promote experimentation/prototyping</th>
<th>Promote creativity</th>
<th>No prior knowledge in project management</th>
<th>Use visual templates/diagrams</th>
<th>Use other methods of social technologies as inspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Thinking</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oasis game</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Canvas Model</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Serious lego game</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Dragon Dreaming</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Theory of Change</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Systems Thinking</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Pedagogy of Cooperation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Source – Own (author)

All have as their main attributes the promotion of cooperation and the goal of meeting future needs. The promotion of empathy is not met by the Canvas Model, this model also does not present as one of its main attributes the promotion of creativity and experimentation through prototypes. Regarding the Theory of Change, it was not clear whether it requires those involved to have any prior knowledge in project management.

In general, the methods aim to promote cooperation and empathy to solve current or anticipated demands. However, not all of them seem to be committed to promoting the creativity and personal development of those involved, only the Oasis, Dragon Dreaming and Pedagogy of Cooperation methods are committed to the personal development of their
stakeholders, the latter being the only method that takes inspiration from other approaches or technologies.

5 Conclusion

Social technologies and social entrepreneurship aspire to change society or a necessary demand that has not been met by public policies. Involving stakeholders in the construction of a social business can be difficult, but there are ways to involve stakeholders through the use of social technology methods applied in collaborative projects, considering that the creation phase of a social business can be understood as a project, as it has an end and a certain peculiarity, and that it is possible to find converging ends between the concepts of social technology, social entrepreneurship and collaborative project.

Eight methods were presented in this paper, showing their peculiarities and approaches focused on meeting specific requirements. Some are more committed to the personal growth of the parties involved, while others focus on promoting creativity, for example. There is also the Pedagogy of Cooperation approach that makes use of other social technologies.

This work has limitations regarding the range of technologies found related to the concepts of social entrepreneurship and social technologies. It should be considered that these topics should be deepened, and it should be noted that it is possible that other methods little known in academia may fit the same requirements as those presented. Thus, further immersion in other sources that present more approaches and implementation of practices is needed to better understand their effectiveness.

References


Prison To Help Build Empathic and Resilient Communities. She Ji, 4(1), 91-110.

Gharajedaghi, Jamshid. Systems Thinking: Managing Chaos and Complexity: A Platform For Designing

Gil, A.C.(2002) Como Classificar As Pesquisas. Como Elaborar Projetos De Pesquisa, V. 4, N. 1, P. 44-45,
2002.

systemically/ Accessed 20/10/2022

Grunwald, G., Schwill, J., & Sassenberg, A. M. (2021). Sustainability Project Partnerships In Times Of Crisis:
Conceptual Framework and Implications For Stakeholder Integration. Journal Of Entrepreneurship and Public
Policy, 10(3), 352-378. https://doi.org/10.1108/jepp-04-2021-0044

Regime Change: The Case Of Innovation In Sanitation. Technology Analysis and Strategic Management, 19(6),
729-746. https://doi.org/10.1080/09537320701711215

2022

ITS Brasil (Social Technology Institute). Reflections On The Construction Of The Concept Of Social

Katsushi, N. (2020). Social Enterprise Development In Indonesia By Transdisciplinary Approach. Iop

Kristiansen, Per; Rasmussen, Robert. Building A Better Business Using The Lego Serious Play Method. Dvs
Publisher, 2015.

Research : Contributions Of Dragon Dreaming In The Social Incubation Of Ecological Sanitation. C&Ts
Journal, 4(1), 143-158.

Marmentini, Gabriel; Pinheiro, Daniel. Elos Philosophy: A Tool For The Realization Of Dreams In
Communities and Organizations. Reflections Of Public Administration Training., P. 129.2017

Accessed 18 oct.2022

Morgan, M., Seibert, K., Barnes, C., & Martin, F. (2022). User Needs and The Building Blocks Of Regulation:
Using Participatory Design To Prototype Social Enterprise Legal Structures In Australia. Public Policy and
Administration, 37(2), 154-178. https://doi.org/10.1177/0952076720911692

Mussi, A. Q.; Silva, L. B. De O.; Lantelme, E. M. V.; Cesaro, S. R. De; Deon, L. F. N.; Rodrigues, D. I.; Silva,
T. L. Da.Arquitetura Inclusiva: Experiência De Projeto Colaborativo. Ambiente Construído, Porto Alegre, V. 20,

Nicholls, A., Skoll, J., Yunus, M., Drayton, B., Young, R., Mulgan, G., Cho, A., Grenier, P., Dees, J. G.,
anderson, B. B., Austin, J. E., Leonard, H., Refico, E., Wei-Skillern, J., Foster, D., Alter, S. K., Leadbeater, C.,
In Oxford University Press. https://doi.org/10.1111/j.1467-8705.1995.tb01084.x


