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OPEN DATA PLATFORMS: CHALLENGES AND OPPORTUNITIES FOR SOCIAL
ORGANIZATIONS

JOANA MATOS DA FONSECA

Work project carried out under the supervision of:

Advisor: Leid Zejnilović

Co-advisor: Lénia Mestrinho

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Abstract

Open data platforms are repositories that gather information from multiple sources and make it available to different stakeholders. In the social economy context, these platforms aim to address informational gaps about the social organizations, promoting transparency and awareness in the sector. However, social organizations face challenges when adopting these platforms. This thesis investigates the motivations and barriers faced by Portuguese social economy entities in adopting *Base de Dados Social* (BDS), the Portuguese social database. By using a mixed-method approach combining benchmarking analysis and survey data, actionable recommendations are provided to improve BDS and amplify its impact.

Keywords: Social Economy, Open Data Platforms, Social Organizations, Transparency, Collaboration

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1. Introduction

Open data platforms have become powerful tools for promoting transparency, collaboration and operational efficiency across various sectors, including the social economy. These platforms serve as center points to access data, allowing organizations to increase visibility and share information to donors, beneficiaries, and the public (European Data Portal 2020). In Portugal, the *Base de Dados Social* (BDS) platform is a centralized, publicly accessible database that aims to bridge the information gap in the national social sector (Nova SBE Data Science Knowledge Center 2024).

The social economy in Portugal comprises over 73,000 entities, including cooperatives, foundations, and associations. (INE 2019). While these organizations contribute significantly to the national economy and the well-being of communities, they often face challenges with transparency, resource managing and collaboration (Ortega-Rodríguez et al. 2020). Open data platforms like BDS aim to address these issues by creating an environment where information is accessible, reliable, and beneficial for stakeholders (European Data Portal 2020).

Despite the potential benefits, social organizations encounter barriers when adopting open data practices. Time constraints, lack of clear guidance, and limited resources often make it difficult for social organizations to fully engage with platforms like BDS (European Data Portal 2020). Furthermore, organizations are not aware of the benefits that open data can offer (Janssen et al. 2012). These challenges highlight the need to identify the main motivations and address the barriers to improve platform engagement.

This thesis explores the challenges and opportunities associated with the adoption of open data platforms by social organizations in Portugal, with a specific focus on *Base de Dados Social*. The structure of the thesis is organized as follows. Firstly, the background and theoretical foundation, addressing the national social economy and legal frameworks, the importance of open data, transparency, collaboration, and open data platforms, and the organizations'

motivations and challenges in joining them. Secondly the research methodology and findings are presented. Finally, it concludes with a discussion and recommendations to improve BDS and maximize its impact on the Portuguese social economy.

2. Background

2.1. Social Economy in Portugal

The social economy is formed by a range of entities with different business and organizational models. These entities prioritize social objectives and democratic governance over profit-making, reinvesting the majority of their profit and surpluses into their operations to fulfill their social mission. Social organizations are entities within this framework that aim to address societal needs not suitably addressed by government or private organizations. They are significant providers of community services such as healthcare, education, social assistance, culture, environmental protection, and human rights while contributing substantially to national economies (European Commission 2021).

In Portugal, the social economy is legally defined in *Lei de Bases da Economia Social - Law 30/2013* as the economic and social activities freely carried out by entities with legal forms of cooperatives, mutual associations, mercies (misericórdias), foundations, entities with IPSS (Private Institutions of Social Solidarity) statute, associations with altruistic aims acting in cultural, recreational, sports, and local development fields, entities in the communitarian and self-managing subsector under the cooperative and social constitution, and other entities with legal form respecting the social economy principles (Assembleia da República 2013). These entities operate under seven guiding principles of the social economy described in *Law 30/2013* and are characterized by their autonomy and independence, functioning separately from the state, political parties, and business entities, while maintaining a non-profit orientation (Assembleia da República 2013).

According to the Satellite Account of Social Economy in Portugal (2019/2020), there are more than seventy-three thousand (73,000) entities in the social economy, representing a 33% increase since 2010. Over 90% of these entities are associations with altruistic aims, and the majority of them (55.3%) have between 10 and 49 years of experience. While Lisbon and Porto districts have the highest concentration of social organizations, the interior regions surpass them in the number of social organizations per thousand inhabitants. Additionally, social economy entities contributed 3.2% to the Gross Value Added (GVA), 5% to total wages, and 5.9% to paid employment in the Portuguese economy (INE 2019).

As can be seen, the social economy plays a vital role in Portugal, not only in its economy but also in its population's quality of life. It is important to continue supporting and growing this sector, creating even greater positive change.

2.2. Open Data in Social Organizations

Social economy entities rely on resources provided by donors, the government, and other stakeholders to fulfill their social mission, so transparency is essential for these organizations to build and maintain trust among their supporters and beneficiaries. By openly disclosing information about their activities, resource allocation, and impact, social organizations demonstrate accountability and ethical management practices. Lack of transparency can lead to a lack of confidence and reduced support from the stakeholders, impeding the organizations' ability to achieve its mission (Ortega-Rodríguez et al. 2020).

One way to enhance transparency and accountability is through the use of open data. Open data is defined by the *Open Definition* as information that can be used, modified, and shared by anyone and for any purpose. It must be available in formats that are machine-readable and accompanied by open licenses that clarify its usability (Open Knowledge Foundation 2015). In the context of the social economy, open data is an important key to foster transparency and accountability in social organizations by making decision-making processes visible to the

public. Additionally, open data can foster collaboration between social organizations by just providing accessible information, since it allows any organization to identify and connect with other with similar principles or projects. Collaboration among social organizations enables them to combine resources, expertise, and efforts, which results in more efficient and impactful initiatives. By working together, organizations gain access to different skillsets and perspectives, as well as more resources to tackle challenges and organize projects. This collective effort strengthens relationships among organizations and the communities they serve, leading to a greater impact and a more effective achievement of their goals (Philanthropy News Digest 2016; Zam Zam 180 2023).

Open data platforms are particularly significant in this process, as they serve center points for access to open data. These platforms act as repositories that gather information from multiple sources and make it available to different stakeholders – from journalists to business analysts to local communities to citizens. Open data platforms ensure that the information about social organizations is easily reachable through user-friendly interfaces, advanced search features, and standardized data. For social organizations this accessibility is essential, since it provides the information they need for informed decision-making within the organization and allows them to report their impact to donors, beneficiaries, and the public (European Data Portal 2020).

While open data platforms play an important role in improving access to information and encouraging transparency and collaboration in social organizations, there are still several challenges to overcome. Social organizations face difficulties when it comes to joining these platforms such as limited technological and personnel resources, concerns about data privacy and sensibility, and a lack of understanding regarding the benefits of data sharing (European Data Portal 2020). Although these concerns are faced across open data platforms worldwide, this research will focus specifically on the Portuguese context, with an emphasis on the Social Database project – *Base de Dados Social* (BDS). This thesis aims to investigate the main factors

that affect Portuguese social organizations' involvement in *Base de Dados Social* by exploring their key motivations and major challenges when using the platform.

This research will address two central topics: What motivates social organizations to share their data on open data platforms, and what challenges stand in the way of this process. Furthermore, by examining other international open data platforms, this study will find the best practices that can be adapted to improve the *Base de Dados Social* platform and its engagement with social organizations in Portugal.

2.3. Literature Review

2.3.1. Motivations for Open Data Use in Social Organizations

As mentioned before, social organizations can benefit greatly from adopting open data practices, however it involves the expenditure of resources, time and effort. As a result, these entities are motivated by the potential benefits of open data compared to the required effort to implement it. Janssen, Charalabidis, and Zuiderwijk (2012) divide the benefits of using open data into three categories: political and social, economic, and operational and technical.

Looking at the political and social benefits, the first and most fundamental benefit to mention is increased transparency and accountability. As mentioned before, by openly sharing their data, organizations build trust among stakeholders, including donors, beneficiaries and the public. This transparency allows stakeholders to monitor organizational activities, ensuring that resources are used effectively and aligned with the organizations' mission, as well as holding the organizations accountable for their decisions and impact. Beyond transparency, open data fosters civic participation and public engagement by providing information about the organizations projects and impact, encouraging citizens to have an active role. Additionally, it facilitates the generation of new insights by enabling anyone to analyze data, identify trends and develop evidence-based policies and initiatives (Janssen et al. 2012; World Bank n.d.).

From an economic perspective, open data contributes to greater administrative efficiency and cost savings. It creates opportunities to improve internal processes, products and services as well as provides an easier access to external capacity and resources for solving problems. (Kawashita et al. 2022).

Finally, from an operational and technical perspective, open data provides organizations tools to improve their efficiency. By openly sharing operational and impact data, organizations reduce the need to repeatedly respond to individual data requests, simplifying communication and allowing a more effective allocation of resources. Open data also supports benchmarking and collaboration, facilitating the development of interventions with reduced effort from the organizations. Additionally, it encourages the creation of new insights by combining different data sources, and ensures the sustainability of information by preventing data loss over time (Janssen et al. 2012; Kawashita et al. 2022).

2.3.2. Challenges of Open Data Use in Social Organizations

Although open data can provide many benefits for social organizations, its adoption and effective use can be challenging. The European Data Portal (2020) identifies six categories of barriers that prevent both data publishers and data re-users from fully taking advantage of the potential of open data: political, organizational, legal, technical, financial, and awareness-related barriers.

Political barriers result from a lack of prioritization by politicians and policy makers as well as resistance within administrative structures of the organizations themselves to implement open data initiatives. Legal barriers focus on challenges related to open data legislation, policies and government directives and licenses, as well as privacy constraints that prevent data publication. Technical barriers are associated with poor data quality and availability, lack of standardization and machine-readable formats and difficulties with data discoverability. Financial barriers are related to the costs of implementation and ongoing management of sharing data, which requires

investments in infrastructure, people, and technology. Organizational barriers include barriers related to the internal structure of the organization and awareness barriers cover the limited understanding of open data's benefits (European Data Portal 2020). For the purpose of this study, the focus will be on the last two categories – organizational and awareness barriers – since these are directly related to the social organizations themselves and represent areas where actionable change can be made.

Organizational Challenges

Organizational challenges represent a significant barrier in the effective adoption and management of open data practices in social organizations. These challenges arise from both the internal elements of the organization and the way it interacts with external stakeholders (European Data Portal 2020).

Internally, one of the biggest obstacles is the integration of open data into existing workflows and operational processes. Many organizations don't have neither a specific timeframe for publishing their data, meaning that it is done either as needed or in a one-time basis, nor a specific person or team with the role and responsibility of adopting and managing this data practices, since staff members may view this as an extra task rather than an integral part of their role. This lack of institutionalization often results in inefficiencies and inconsistencies in how data is managed and shared (Janssen et al. 2012).

Another significant internal barrier is the lack of skills within the organization. Effective open data practices require both technical skills (such as data management, data formatting, and ensuring data quality) and strategic skills (such as understanding the value of data and aligning it with organizational goals). Many organizations, especially those with limited resources, face challenges in providing the necessary training for their staff. This skills gap can prevent organizations from effectively publishing and managing open data. (European Data Portal 2020; Kawashita et al. 2022).

Externally, the challenges that organizations face include the interactions that they have with the numerous stakeholders involved in open data initiatives. These initiatives require coordination between data producers, publishers, and users and there is often poor communication and collaboration between them, which results in misconceptions regarding the need for data or how it should be formatted. Moreover, some organizations may view open data publication as a loss of control over valuable information, making them hesitant to share data freely (European Commission 2013).

Awareness Challenges

As seen, adopting open data practices has numerous benefits, however many organizations are not aware of them. This lack of awareness is a significant obstacle in the adoption of open data, as organizations may not recognize how it can enhance transparency, improve operational efficiency, foster innovation and promote collaboration between social organizations (European Data Portal 2020).

The limited understanding of open data's value is one of the most significant awareness challenges. Many organizations fail to see the potential benefits of open data, such as its role in improving decision-making or fostering collaboration. This lack of understanding leads to insufficient motivation to share or use data effectively (Janssen et al. 2012).

Another awareness barrier is the misconception about the risks of open data. Organizations may be concerned about privacy risks or misuse of their data, which leads them to avoid engaging with open data platforms (European Commission 2013).

Additionally, many organizations face a lack of knowledge about how to properly publish and share data. Even when they understand the potential benefits of open data, they may not have the technical expertise or resources to make their data accessible and usable by others (Kawashita et al. 2022). Moreover, there is often a lack of visibility regarding available open data platforms and resources. Many social organizations are simply unaware of the platforms

where they can share their data, or the tools they can use to engage with the open data ecosystem (European Data Portal 2020).

3. Methodology

To achieve the research objectives, two complementary methods were used: a comparative analysis of international open data platforms, and a survey targeting Portuguese social organizations enrolled in *Base de Dados Social*, the Portuguese social database platform, that provides information about social economy entities in Portugal. These methods were selected to combine the theoretical insights with a practical understanding of the challenges and motivations faced by Portuguese organizations, as well as to identify potential improvements for *Base de Dados Social* (BDS).

The comparative analysis was conducted to identify the best practices of open data platforms worldwide that could be adapted into *Base de Dados Social*. Three platforms were examined – GuideStar (USA), *Mapa das Organizações da Sociedade Civil* (Brazil) and *Guía ONGs* (Spain) – to evaluate their functionalities and relevance in addressing the needs of social organizations. Complementing the comparative analysis, a survey was developed to explore the challenges and motivations of Portuguese organizations regarding open data platforms. Additionally, the survey aimed to validate the relevance of the features identified in the comparative analysis for the organizations enrolled in BDS.

3.1. Comparative Analysis of Open Data Platforms for Social Organizations

Open data platforms have become important tools in the digital era by allowing data to be gathered, organized and shared for a wide range of stakeholders. These platforms provide users with the infrastructure and functionalities they need to efficiently use open data by offering centralized repositories of structured data. They play a very important role in fostering

transparency, collaboration and innovation, and providing information for evidence-based decision-making (Rudmark et al. 2024, European Data Portal. 2020).

For social organizations, open data platforms are a useful resource that helps overcoming challenges such as limited access to quality data, lack of resources for data management and difficulties in collaboration. These platforms not only provide a tool for data sharing, but also enhance their usability by having features such as filtering, user-friendly interfaces and interactive visualizations, making it easier for social organizations to provide reliable information to their stakeholders – including the general public, donors, and beneficiaries – and maximize their social impact (European Data Portal 2020).

The following analysis focuses on three different open data platforms for social organizations around the world: GuideStar (USA), *Mapa das Organizações da Sociedade Civil* (Brazil) and *Guía ONGs* (Spain). These specific platforms were selected after an initial exploration of a larger set of platforms that included Charity Base (UK), Powered by Data (Canada), The Third Sector Data Hub (Scotland), data.gov.au (Australia), and Avoindata.fi (Finland).

The platforms explored were chosen due to the following selecting criteria that prioritized organizations that:

1. Focus explicitly on social organizations and their activities.
2. Have the same goal and mission of *Base de Dados Social*, which aims to bridge the informational gap in Portugal's social sector by providing an integrated, open-access database that promotes knowledge about Portuguese social impact organizations and the broader social sector (Nova SBE Data Science Knowledge Center 2024).
3. Offer a comprehensive set of features relevant to the needs of social organizations, such as accessible and reliable data, and tools for promoting organizational visibility.

While platforms such as Charity Base, Powered by Data, data.gov.au, and The Third Sector Data Hub demonstrated strong technical capabilities, their primary focus was on providing

datasets for upload and download in machine-readable formats like CSV or Excel. Their objectives are more technical, centered around data management rather than increasing visibility and transparency in social organizations. Additionally, Avoindata.fi posed challenges for analysis due to the lack of English-language options, which limited its accessibility for this study.

In contrast, GuideStar, *Mapa das Organizações da Sociedade Civil*, and *Guía ONGs* were chosen because of their direct focus on supporting social organizations by providing relevant information for both social organizations and stakeholders such as researchers, donors, policymakers, and the general public. These platforms align more closely with the objectives of *Base de Dados Social* and, by examining their features, this study will identify their best practices that can be adapted into the BDS platform, strengthening its role in supporting social economy entities in Portugal.

3.1.1. Overview of Selected Platforms and Methodology

In order to conduct this analysis, it is essential to understand the background and characteristics of each of the aforementioned platforms.

GuideStar is a public charity that provides information about IRS-registered nonprofit organizations in the United States. It is the world's largest source of data on U.S. nonprofits with a database that covers over 1.8 million organizations. GuideStar's mission is to empower donors, grantmakers, and businesses with reliable, up-to-date information, including financial data, leadership details, mission statements, and others, sourced from IRS filing and direct reporting (Simone's Kids 2024).

Mapa das Organizações da Sociedade Civil, or simply *Mapa das OSCs*, is a collaborative public transparency platform with data from civil society's organizations (OSCs) from Brazil, managed by *Instituto de Pesquisa Econômica Aplicada* (IPEA). It has four primary objectives: 1) to increase transparency in the activities of the OSCs, particularly in partnerships with public

administration, 2) to inform about the importance and diversity of projects and activities developed by these entities, 3) to provide data and promote research about OSCs, and 4) to support public managers in making decisions about public policies that already have or might have connections with OSCs. In addition to data and indicators, the platform offers tools for CSOs to update their information and access relevant calls for funding (Secretaria-Geral da Presidência da República n.d.).

GuiaONGs is an initiative led by *Grupo Antevenio*, a private marketing company, born out of the need for online interaction between NGOs and society. The platform acts as a meeting point between both parties, enabling effective two-way communication. It provides NGOs with the tools to make themselves known, publish their institutional news without censorship, and announce the different events that they promote. At the same time, *GuiaONGs* offers society a channel to access the information provided by different NGOs, promotes awareness of their activities, and encourages participation in the various awareness and support campaigns carried out by these non-governmental organizations (Grupo Antevenio 2024).

Base de Dados Social addresses the informational gap in Portugal's social sector by creating an integrated, open-access database. The platform aims to provide public information about Portuguese social impact organizations, promoting knowledge about individual organizations and the sector as a whole, serving NGOs, foundations, companies focused on social impact, as well as researchers, donors, policymakers, and the general public (Nova SBE Data Science Knowledge Center 2024).

To compare these four platforms, a set of benchmarking questions was developed. These questions were created gradually during the analysis of the platforms, where key features and differences across platforms were encountered. Once the questions were formulated, it made sense to organize them into different areas. Based on the questions that were found, six areas

were identified, as detailed below, each addressing specific aspects of platforms functionality and effectiveness.

Purpose and Affiliation

1. What is the core mission and primary objectives of the platform?
2. Is the platform affiliated with or operated by a government entity, or is it managed independently?

Data Availability and Quality

3. What types of data are available on the platform, and what level of detail is provided?
4. How frequently is data updated, and what protocols ensure that information remains current?
5. What verification or validation processes does the platform use to ensure data accuracy, such as audits or third-party reviews?

Awareness and Promotion, Registration, Participation, and Incentives

6. How does the platform raise awareness and encourage registration among social organizations?
7. What are the processes through which organizations can register and join the platform?
8. What incentives or benefits are offered to organizations to encourage initial registration and active participation?
9. Once registered, what mechanisms exist to encourage organizations to keep their data updated?
10. Are there formal recognition methods, such as awards, seals, or certifications, for organizations that meet high standards of data-sharing and transparency?

Collaboration and Visibility Tools

11. Does the platform facilitate collaboration between organizations?

12. What visibility options are available to organizations, such as featured listings, sponsored profiles, or highlighted projects, to increase their prominence on the platform?

User Access and Data Utility

13. Are there options to download data in accessible formats, such as CSV, Excel, or API access?
14. What search filters are available for users to narrow down search results effectively?

User Support and Experience

15. Who are the primary user groups targeted by the platform (e.g., donors, researchers, the general public), and does it primarily focus on transparency, operational support, or both?
16. Does the platform offer user accounts with customizable features, such as saved searches, organization follow lists, or personalized notifications?
17. What types of user support are available, to help on data submission and quality maintenance, such as FAQs, user guides, or customer service options?

3.2. Survey Design and Implementation

Along with the theoretical research from a worldwide perspective about the challenges and motivations of adopting open data, there is still a need to understand the specific challenges and motivations of Portuguese social organizations. Additionally, while the comparative analysis of open data platforms will provide suggestions for improving *Base de Dados Social*, it is important to validate if the social organizations enrolled in BDS will find these features useful and relevant to their needs.

To address these questions, a survey was developed, supported by the findings in section 2. It was conducted in Portuguese to ensure accessibility for the target audience – Portuguese social organizations enrolled in BDS – and is included in appendix 2. To guarantee the viability of the

survey, and to guarantee a proper understanding, the former was pre-tested internally with 3 senior researchers from Nova SBE Data Science Knowledge Center, all of whom possess significant expertise in the fields of social economy and data.

The final survey consisted of 13 questions, six of which were mandatory. The question types included: seven multiple-choice questions, one five-point Likert scale question, two ranking questions, and three short-answer open-ended questions. The survey was divided into five sections: the first section assessed the organization's motivations to join BDS; the second section explored challenges in keeping data updated on the platform and potential measures to address these issues, the third section examined which new features could improve organizations' engagement with BDS, the fourth section focused on identifying features that could enhance collaboration between organizations, and the final section allowed respondents to provide additional comments, ideas, or suggestions related to the topic.

The survey was distributed via email to 175 organizations enrolled in BDS, all of which had a completion rate of over 30% on the platform. It was featured in the November and December editions of the Social Database Newsletter. Additionally, 25 organizations were contacted by phone to encourage participation. Ultimately, the survey received 45 responses, which were stored in an Excel file for further analysis.

3.2.1. Data Analysis Methods

The survey responses were prepared and coded to facilitate the analysis of the survey data (details of variable coding can be found in appendix 3). Additionally, a new variable, *Top_Two_Motivations*, was created, by extracting the two highest-ranked motivations from each respondent's answer to Question 2.

An exploratory data analysis (EDA) was conducted as an initial step to understand the overall distribution of responses. This analysis provided descriptive statistics to identify general patterns in the responses. The EDA revealed insights about how respondents' became aware

about *Base de Dados Social*, their motivations, challenges and preferences for new features on the platform, detailed results can be found in appendix 4.

For a deeper understanding of the survey results, a hierarchical clustering approach was employed (appendix 6). This method was selected because of its ability to group organizations based on shared characteristics, helping to explore the relationships between challenges and motivations, and the new features or collaboration tools selected by the respondents. In this clustering process the variables from the questions *Top_Two_Motivations*, *Challenges*, *New_Features*, and *Collaboration_Tools* were converted to binary (1 for selected, 0 for not selected). Using the elbow method, silhouette analysis and the Calinski-Harabasz Index, the ideal number of clusters was determined to be three, as detailed in appendices 8 to 10. Based on the centroid coordinates of the variables for each cluster (appendix 11), the clusters were labeled. Finally, to visualize the clustering results, a t-SNE (t-distributed Stochastic Neighbor Embedding) dimensionality technique was applied (appendix 7), confirming the distinctions between clusters.

4. Results

4.1. Findings from Comparative Analysis

An analysis of the websites of each selected platform was conducted to address the benchmarking questions. The full details of this analysis can be found in appendix 1, while Table 1 provides a summary of the key findings across all the questions of the six areas aforementioned – purpose and affiliation; data availability and quality; awareness and promotion, registration, participation, and incentives; collaboration and visibility tools; user access and data utility; and user support and experience. These findings provide insights that can be used for the improvement of *Base de Dados Social*.

Table 1. Comparative analysis of open data platforms

<i>Area</i>	<i>GuideStar</i>	<i>Mapa das OSCs</i>	<i>GuiaONGs</i>	<i>Base de Dados Social</i>
<i>Purpose and Affiliation</i>	2. Non-profit under Candid; partnered with the IRS.	2. Government initiative managed by IPEA.	2. Independent; managed by <i>Grupo Antevenio</i> .	2. Independent; developed by Nova SBE in collaboration with <i>Fundação "la Caixa"</i> .
<i>Data Availability and Quality</i>	3. Four-tiered Seals of Transparency: contact info to goals and metrics. 4. Annual updates via IRS and self-reporting. 5. Financials verified by IRS.	3. Detailed profiles. 4. Data from government sources and self-updated. 5. Verified government databases.	3. Mission, contact details, focus areas. 4. Updated when NGOs submit changes. 5. No formal verification.	3. Detailed profiles. 4. Self-reported updates. 5. No formal verification.
<i>Awareness and Promotion, Registration, Participation, and Incentives</i>	6. Partnerships, webinars, newsletters. 7. Self-registration or claiming profiles. 9. <i>Transparency Seals</i> for active participation.	6. Government channels. 7. Auto-registration from government databases. 9. <i>Selo de Preenchimento</i> for profile completion.	6. Digital marketing through <i>Grupo Antevenio</i> . 7. Self-registration. 9. No formal recognition.	6. Partnerships, academic outreach, events. 7. Self-registration. 8. No formal recognition.
<i>Collaboration and Visibility Tools</i>	12. Filters by <i>Transparency Seals</i> ; urgent campaigns highlighted on Candid.	12. No visibility tools.	12. Highlights recent petitions to donors.	11. Displays similar organizations. 12. Prioritizes organizations with more shared data in search results.
<i>User Access and Data Utility</i>	13. Downloadable data (CSV, Excel). 14. Multiple filters.	13. Downloadable data. 14. Multiple filters.	13. No downloadable data. 14. Filters limited to sector and location.	13. No downloadable data 14. Multiple filters.
<i>User Support and Experience</i>	16. Customizable accounts. 17. FAQs and support.	17. FAQs, tutorials, and contact info.	17. Contact info only.	17. FAQs and contact info.

4.1.1. Recommendations for Base de Dados Social

After analyzing GuideStar, *Mapa das Organizações da Sociedade Civil* and *GuiaONGs*, several features were identified as potential improvements for *Base de Dados Social*. These recommendations are grouped into two main categories: Data Management and Visibility Tools and Collaboration Tools.

Data Management and Visibility Tools

To improve data accessibility, usability and the visibility of organizations in the platform, the following features are proposed:

1. Data export options: Allow users to export data in machine-readable formats such as CSV or Excel for analysis or reporting.
2. Customizable Organization Accounts: Introduce functionalities such as saved searches, favorite organizations, and personalized notifications to improve organizations' experience and engagement with the platform.
3. Transparency Seals: Implement transparency indicators to reflect the completeness and type of shared data, encouraging organizations to keep their profiles updated.
4. Customizable Organization Profiles: Allow organizations to highlight updates and projects in their profiles, providing stakeholders with up-to-date and relevant information.
5. Donation Button: Integrate a donation feature to facilitate contributions directly through the platform, improving resource acquisition.

Collaboration Tools

To foster collaboration among social organizations, three additional features were conceptualized.

1. Messaging and Communication Center: An internal messaging system that allows individuals and organizations to connect directly through the platform. This feature enables direct communication between organizations via chat, group messages, or private discussions, fostering collaboration.
2. Project Collaboration Spaces: A dedicated space where organizations can create projects or initiatives and invite others to join. This feature allows participants to share documents, define objectives, track progress, and assign tasks, facilitating coordination and the execution of joint initiatives.

3. Resource-Sharing Platform: A space where organizations can list and request resources they are willing to share or need, such as funding, event spaces, volunteers, or technical support. These features were not derived from the benchmarking analysis, they were specifically designed to foster collaboration within the social sector.

These features were identified to align *Base de Dados Social* with the best practices of international open data platforms. In the following section, the survey results will reveal the preferences and priorities of Portuguese social organizations regarding the proposed features.

4.2. Survey Results

Frequency Analysis

The survey revealed that most organizations became aware of *Base de Dados Social* through email (35.6%) or a colleague (33.3%). When asked to rank the motivations for enrolling in BDS, most respondents rated visibility and networking opportunities as the most important reasons, while attracting partners and attending BDS workshops were ranked the lowest (appendix 5). Additionally, the average rating for the usefulness of BDS was of 3.73 out of 5, with only 3 out of the 45 respondents giving a score of 2 or less, citing the platform's limited reach and lack of relevant features as the main reasons for their lower evaluation (appendix 5). The main challenge to keep the data updated in the platform, pointed by 93% of respondents, is time constraints, followed by a lack of clear instructions (27%) and concerns about data privacy (22%). To overcome these challenges, most respondents (69%) suggested implementing quarterly or biannual reminders, while others proposed introducing transparency seals (51%).

To improve engagement, most organizations recommended adding a donation button (80%), data export options (53%), and customizable profiles (51%). Furthermore, all inquired organizations were interested in collaboration opportunities, showing strong support for the proposed tools, with 89% favoring resource-sharing platforms.

Clustering Analysis

The hierarchical clustering revealed three distinct groups based on the responses: Resource-Focused Collaborators, Highly Motivated Advocates, and Resource-Conscious Visibility Seekers. Each cluster's characteristics were analyzed using centroid coordinates and feature preferences (appendix 11). The t-SNE visualization (appendix 7) and dendrogram (appendix 6) confirm the clustering structure, highlighting clear distinctions among the three groups.

Resource-Focused Collaborators is the largest group (49% of respondents), and it is defined by strong interest in resource-sharing platforms (100%) and data export features (77%). Members of this group are practical, they focus on tools that help them optimize resource usage and improve operational efficiency. They exhibit lower preferences for customizable profiles and visibility-related features, prioritizing functionality over presentation. The Highly Motivated Advocates (9% of respondents) is the smallest group, and they strongly value customizable accounts (75%) and messaging tools (75%) to enhance collaboration and connectivity. They prefer features that enhance transparency, such as transparency levels (75%). Unlike other clusters, this group does not prioritize resource-sharing platforms or project collaboration spaces, suggesting that their primary motivation is fostering partnerships and improving transparency. Finally, the Resource-Conscious Visibility Seekers (42% of respondents) is a cluster that has an interest in visibility-enhancing features like donation buttons (89%) and customizable profiles (79%). They also prioritize resource-sharing platforms (95%), highlighting a need to balance outreach with resource acquisition. Their focus is on increasing outreach and public engagement to secure more resources.

5. Discussion of Results

This research aimed to explore the motivations and challenges associated with social organizations' adoption of open data platforms. The survey results show that the primary

motivations for organizations to join *Base de Dados Social* revolved around increasing visibility and establishing networking opportunities. These results align with the research made, which emphasizes that open data platforms play an important role in fostering transparency and collaboration. Additionally, motivations such as attracting partners or attending workshops, while being valued aspects by the social organizations, are secondary and might not be the main drivers for organizations to join open data platforms.

Regarding the challenges faced by the social organizations to maintain their data updated in the platform, the most prominent barrier was time constraints. This finding is consistent with the organizational barriers discussed in the literature, where the integration of open data into the existing workflows and operational processes was still not achieved. Other challenges that were reported included lack of clear instructions on what data to update and privacy concerns, which suggest a need for BDS to provide more intuitive guidance and communication about data usage, and uncertainty about the value or impact in maintaining data updated, which is consistent with the awareness barriers mentioned in the literature.

The comparative analysis with international platforms showed that several features are already part of their design, but not in BDS. The survey responses revealed a strong preference for specific tools to improve the platform engagement. The most requested features were donation buttons, emphasizing the importance of resource acquisition tools, data export options, indicating a need for more flexibility in data utilization, and customizable profiles, which would allow organizations to showcase their projects and updates more effectively. By incorporating these functionalities, BDS could align itself with international standards and address the expressed needs of its users.

All organizations expressed interest in collaborating with others, with resource-sharing platforms and project collaboration spaces being the most favored tools. This suggests that

organizations seek features that can help they operational efficiency and value partnerships within the sector.

Aside from the findings aforementioned, the clustering analysis revealed three distinct groups of organizations with unique priorities and preferences: 1) Resource-Focused Collaborators, who focus on operating efficiency rather than visibility or customization features; 2) Highly Motivated Advocates, who value transparency and collaboration over resource-oriented tools; and 3) Resource-Conscious Visibility Seekers, who focus on increasing outreach and public engagement to secure more resources. These clusters show that Portuguese social organizations have diverse needs, and it is important to have platform features that can address both operational and visibility focused goals.

5.1. Limitations

The findings of this study provide actionable recommendations to enhance the development and promotion of *Base de Dados Social*. Adjusting the platform features to align with the challenges and motivations identified in other platforms could significantly improve user engagement and help social economy entities in Portugal. Additionally, the platform has the potential to foster greater collaboration among organizations, which could amplify their collective impact. However, it is important to acknowledge the limitations of the methodology. First, the benchmark analysis relied only on publicly available information about the selected platforms, which might not provide a complete picture of their functionality and implementation challenges. Second, the small sample size of 45 responses may constrain the generalization of the results, as it might not fully capture the diversity of the Portuguese social sector. Third, while the survey design included an “Other” option for all the questions to allow open-ended responses, the predominance of checkbox questions may have biased the participants towards the predefined options, rather than encouraging original answers and reflections. This could have limited the range of responses, especially regarding the motivations

and challenges associated with BDS. Finally, this study only represents the organization's perspectives and behaviors at a specific point in time. As the platform evolves and organizations adapt to a more digital future, their motivations and challenges might change, making it necessary to revisit these findings periodically to ensure their relevance.

In future studies, these limitations could be addressed by contacting directly with benchmark platforms to gain a more comprehensive understanding of their functionality and challenges, allocating more time to collect a larger number of responses to ensure a more representative sample, conduct interviews with the social organizations to complement the survey findings and gather more open ended feedback, and periodically repeating the study to capture how organizations' needs evolve over time.

6. Conclusion

Open data platforms are essential in fostering transparency, collaboration and operational efficiency within the social economy. In Portugal, *Base de Dados Social* focuses on providing public information about the Portuguese social economy entities, promoting transparency and awareness in the sector. Social organizations value the visibility and networking opportunities that *Base de Dados Social* provides but encounter challenges such as time constraints, unclear instructions and limited resources that prevent them from fully taking advantage of the platform. Addressing these issues through the introduction of new tools, such as resource-sharing features, customizable profiles, and collaboration spaces, could significantly improve the platform's impact. By overcoming these barriers and promoting the adoption of open data practices, *Base de Dados Social* has the potential to strengthen collaboration among organizations, improve transparency, and increase the collective impact of Portugal's social economy.

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6. Appendices

Appendix 1: Benchmarking Analysis Tables

Purpose and Affiliation

Platform	1. Core Mission and Objectives	2. Platform Affiliation
GuideStar	<ul style="list-style-type: none"> - Enhance transparency by providing reliable and comprehensive data on U.S. non-profits. - Support decision making among donors, foundations and the public. 	<ul style="list-style-type: none"> - Non-profit organization. - Part of Candid, a larger entity. - Independent from the government but partners with the IRS.
Mapa das Organizações da Sociedade Civil	<ul style="list-style-type: none"> - Enhance transparency regarding the activities of civil society organizations (CSOs). - Providing information, support public policy decisions and foster public understanding of CSO's projects. 	<ul style="list-style-type: none"> - Managed by IPEA (public research institution). - Government initiative
Guia ONGs	<ul style="list-style-type: none"> - Serve as a directory to connect the Spanish public with NGOs. - Increase public support by sharing essential information on NGOs. 	<ul style="list-style-type: none"> - Managed by Grupo Antevenio, a private marketing company. - Independent from the government.
Base de Dados Social	<ul style="list-style-type: none"> - Promote transparency and awareness of Portugal's social sector. - Provide detailed data on social organizations for public use. 	<ul style="list-style-type: none"> - Developed by Nova SBE in collaboration with Fundação "la Caixa" and BPI. - Independent from the government.

Data Availability and Quality

Platforms	1. Data Types and Scope	4. Update Frequency and Maintenance	5. Verification Processes
GuideStar	<ul style="list-style-type: none"> - Bronze: contact information, donation information, mission, leader information. - Silver: program, brand, latest activity, Grantmaker status. - Gold: recent year financials, people. - Platinum: strategy and goals, metrics. <p>(Candid 2024) <i>Seals of Transparency Guide</i> for in detail information.</p>	<ul style="list-style-type: none"> - Annually through IRS data - Continuous self-updates by organizations. 	Financials verified by IRS filings.
Mapa das OSCs	<ul style="list-style-type: none"> - General data, areas of activity, description, titles and certifications, work and governance relationships, social participation spaces, projects, activities, or programs, annual funding sources. <p>(IPEA n.d.) <i>Metodologia</i> for in detail information</p>	<ul style="list-style-type: none"> - Regular updates from multiple government sources. 	Aggregates verified government databases.
GuiaONGs	<ul style="list-style-type: none"> - Mission, contact details, focus area, sector categorization. 	<ul style="list-style-type: none"> - Updated as NGOs submit changes. - No automated system for regular updates. 	Self-reported, no verification.

Base de Dados Social	<ul style="list-style-type: none"> - Identification details (name, contact, location, pitch and mission). - Financial details. - HR details (overview of workers, associates and volunteers and job and volunteering opportunities). - Activity information (area of intervention, projects, target audience). - Governance model (legal status, governing bodies). - Impact indicators. 	<ul style="list-style-type: none"> - Updated as needed by organizations, encouraged but no strict frequency. 	Self-reported, no verification.
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Awareness and Promotion, Registration, Participation, and Incentives

Platform	6. Awareness and Promotion Strategies	7. Registration Process	8. Initial and 9. Ongoing Incentives for Organizations	10. Recognition and Certification
GuideStar	- Partnerships with platforms like AmazonSmile and Facebook. Candid, engages through webinars, newsletters, and collaborations with foundations.	Organizations can register by creating or claiming an existing profile. They are required to provide organizational name, contact details, and an IRS Employer Identification Number (EIN) for verification.	Initial: Increased visibility and credibility to donors and funders. Ongoing: <i>Transparency Seals</i> - Bronze, Silver, Gold, and Platinum levels encourage continuous data updating for higher credibility.	Organizations receive <i>Transparency Seals</i> based on data completeness, improving trust with donors.
Mapa das OSCs	Promoted through government channels, with automatic listing for CSOs receiving public funding, and support from municipal outreach efforts.	Organizations are included automatically through government databases and can update their profiles via the platform.	Initial: Being listed on a government-endorsed platform enhances public credibility and visibility. Ongoing: <i>Selo de Preenchimento</i> serves as an incentive for organizations to update their profile signaling to users that the profile is thorough and up-to-date.	<i>Selo de Preenchimento</i> marks profiles that are fully completed.
GuiaONGs	Digital marketing through <i>Grupo Antevenio</i> and online SEO to increase awareness among Spanish NGOs.	Organizations self-register and are required to provide basic contact and mission information.	Initial: Increased visibility among Spanish citizens, donors, and supporters. Ongoing: There are no formal incentives to encourage organizations to regularly update their data.	There are no formal recognition methods.
Base de Dados Social	Partners with Nova SBE and Fundação “la Caixa,”	Organizations self-register and are required to provide their name, legal form, contact	Initial: Increased visibility within the Portuguese social sector.	There are no formal recognition methods.

	promoting visibility at events, through academic outreach, and at sector-specific conferences.	details, mission, and focus areas.	Ongoing: There are no formal incentives to encourage organizations to regularly update their data.	
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Collaboration and Visibility Tools

Platform	11. Collaboration Tools	12. Visibility Tools
GuideStar	Primarily focused on information access rather than facilitating direct collaboration among organizations.	It is possible to filter organizations by their Seals of Transparency. Specific causes or urgent campaigns, such as petitions, can be highlighted on Candid, but not directly on GuideStar.
Mapa das OSCs	Primarily focused on information access rather than facilitating direct collaboration among organizations.	There are no visibility options to increase the organizations' prominence on the platform.
GuiaONGs	Primarily focused on information access rather than facilitating direct collaboration among organizations.	Highlights the most recent petitions so that donors can help.
Base de Dados Social	Displays a list of similar organizations on each organization's page, facilitating connections and potential collaboration among entities with shared goals and interests.	Highlights organizations that have a higher percentage of shared data (they appear primarily in that order and then the user can filter other categories).

User Access and Data Utility

Platform	13. Data Access Options	14. Search and Filter Capabilities
GuideStar	Provides data in downloadable formats such as CSV and Excel.	Offers multiple filters, including organization size, location, and mission focus, to refine searches effectively.
Mapa das OSCs	Download options include CSV and other machine-readable formats for use by researchers and policymakers.	Advanced filters allow users to narrow results by geographic region, type of funding, and public partnerships.
GuiaONGs	No advanced download options	Simple search function with limited filters, mostly by sector and location, for general visibility.
Base de Dados Social	No advanced download options	Allows filtering by organization size, area of intervention, and SDG alignment for targeted data exploration.

User Support and Experience

Platform	15. Primary User Groups	16. Customizable User Features	17. Support Resources and Guidance
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GuideStar	Donors, grantmakers, foundations, researchers, and the general public.	Users can create accounts to save searches, follow organizations, and set notifications. GuideStar Pro offers additional personalized features for institutional users, such as grantmakers or researchers who require deeper data insights.	FAQs, guides, access to training through Candid and contact information for questions and suggestions.
Mapa das OSCs	Public administrators, policymakers, researchers, and the general public interested in the activities of CSOs in Brazil.	No specific customizable features.	Glossary, FAQs, tutorials and contact information for questions and suggestions.
GuiaONGs	General public and potential donors or volunteers.	No specific customizable features.	Basic contact information.
Base de Dados Social	General public, donors, researchers, and policymakers interested in Portugal's social sector.	No specific customizable features.	FAQs and contact information for questions and suggestions.

Appendix 2: Survey Sent to Organizations Enrolled in BDS

Base de Dados Social - Partilha de Dados em Plataformas Abertas

Em conjunto com o Data Science Knowledge Center (DSKC) da Nova School of Business and Economics (Nova SBE), no âmbito do projeto **Base de Dados Social**, a estudante do Mestrado em Gestão, Joana Matos da Fonseca (email: 58841@novasbe.pt), está a desenvolver uma tese que explora os **desafios e as oportunidades da partilha de dados pelas organizações sociais em plataformas abertas de dados**.

O projeto e o questionário infra visam compreender **os fatores que incentivam ou dificultam a adoção de práticas de dados abertos no setor social**, bem como **recolher sugestões para potenciais melhorias na Base de Dados Social**, com o objetivo de fomentar a **transparência** e a **colaboração** entre organizações sociais. Os dados serão recolhidos para efeitos do estudo referido e serão tratados de forma **anónima e aglomerada**.

Tempo estimado de resposta: aproximadamente **5 minutos**.

1. Como teve conhecimento da Base de Dados Social? *

- Através de um colega ou rede profissional.
- Redes sociais (e.g., LinkedIn, Instagram, Facebook).
- Email ou newsletter da Base de Dados Social.
- Workshop ou webinar da Base de Dados Social.
- Artigo de notícias ou publicação em blog.
- Other

2. O que motivou a sua organização a participar na Base de Dados Social? (Ordene por ordem de importância) *

Para aumentar a visibilidade e transparência da nossa organização.

Para estabelecer relações com outras organizações sociais.

Para atrair potenciais doadores, parceiros ou voluntários.

Para aceder a recursos e informações a partir dos dados da Base de Dados Social.

Para participar nos workshops e outras iniciativas da Base de Dados Social.

3. Caso tenha outra motivação que não foi mencionada, por favor descreva abaixo:

4. Avalie a utilidade da Base de Dados Social para a sua organização de 1 a 5, onde 1 = totalmente inútil e 5 = totalmente útil.

*

1

2

3

4

5

5. Caso tenha respondido 1 ou 2 na pergunta anterior, ordene os motivos por ordem de importância.

Visibilidade ou alcance limitado dos dados da minha organização.

Falta de funcionalidades ou ferramentas relevantes para as necessidades da minha organização.

Dificuldade em navegar ou utilizar a Base de Dados Social.

Benefício insuficiente face ao esforço necessário para atualizar os dados. na Base de Dados Social.

6. Caso tenha outro motivo que não foi mencionado, por favor descreva abaixo:

7. Quais são os principais desafios para manter os dados da sua organização atualizados na Base de Dados Social? *

Please select at most 3 options.

- Tempo ou equipa limitada para atualizar dados regularmente.
- Falta de instruções claras sobre quais dados atualizar.
- Preocupações com privacidade e sensibilidade dos dados.
- Incerteza sobre o valor ou impacto de manter os dados atualizados.
- Dificuldades técnicas com a plataforma.
- Other

8. Como é que a Base de Dados Social poderia ajudar a superar esses desafios? *

Please select at most 3 options.



- Implementar selos de transparência como demonstrado na imagem acima, para organizações com diferentes níveis de dados atualizados e informação partilhada.
- Proporcionar orientações mais intuitivas para a inserção dos dados.
- Destacar nos resultados de pesquisa organizações com maior taxa de dados atualizados.
- Enviar notificações regulares para lembrar sobre a atualização de dados.
- Disponibilizar suporte imediato (e.g., chat, helpdesk).
- Convidar as organizações para eventos e workshops exclusivos.
- Other

9. Caso tenha assinalado a opção de notificações regulares, qual a frequência de atualização de dados que a sua organização consideraria mais viável?

- Duas vezes por ano
- Trimestralmente
- Anualmente
- Other

10. Que novas funcionalidades ou melhorias aumentariam o envolvimento da sua organização na Base de Dados Social?

*

Please select at most 3 options.

- Exportação dos dados em formatos como CSV ou Excel para análise adicional.
- Contas da organização com pesquisas guardadas, organizações favoritas e notificações personalizadas.
- Perfis da organização personalizáveis que destaquem atualizações recentes ou projetos relevantes.
- Níveis de transparência para indicar a completude dos dados e o tipo de informação partilhada.
- Botão de doação nos perfis das organizações para facilitar contribuições do público.
- Other

11. A participação na Base de Dados Social incentivou a sua organização a colaborar com outra organização social? *

- Sim, já colaborámos com outra organização social através da Base de Dados Social.
- Sim, já colaborámos com outra organização social, mas não através da Base de Dados Social.
- Não, ainda não colaborámos com outra organização social, mas gostaríamos de o fazer no futuro.
- Não, não estamos interessados em colaborar com outras organizações sociais.

12. Utilizaria alguma das seguintes potenciais ferramentas na Base de Dados Social para facilitar essa colaboração?

- Centro de Mensagens e Comunicação:** Um sistema interno de mensagens que permite a indivíduos e organizações entrarem em contacto diretamente na plataforma. Esta ferramenta também possibilita a comunicação direta entre organizações através de chat, mensagens de grupo ou discussões privadas, facilitando a colaboração.
- Espaços de Colaboração em Projetos:** Um espaço onde as organizações podem criar projetos ou iniciativas que outras organizações podem aderir. Assim que uma organização se junta ao projeto, pode partilhar documentos, definir objetivos, acompanhar o progresso e atribuir tarefas na área de colaboração, facilitando a coordenação e execução de iniciativas conjuntas.
- Plataforma de Partilha de Recursos:** Um espaço onde as organizações podem enumerar e solicitar recursos que estão dispostas a partilhar ou que precisam, como financiamento, espaços para eventos ou reuniões, voluntários ou apoio técnico.
- Não utilizaria nenhuma das funcionalidades apresentadas acima.

Sugestões adicionais

13. Utilize o espaço abaixo para partilhar quaisquer outras ideias ou sugestões que possam melhorar a sua experiência na Base de Dados Social. Estamos interessados nas suas opiniões sobre novas funcionalidades, ferramentas de suporte ou outras formas de a plataforma melhor servir as necessidades da sua organização.

Appendix 3: Variables and Respective Survey Questions

Variable Name	Question/ Statement	Variable Type
1. Awareness	Como teve conhecimento da Base de Dados Social?	
1.1. Colleague_Network	Através de um colega ou rede profissional.	
1.2. Social_Media	Redes sociais (e.g., LinkedIn, Instagram, Facebook).	Single Choice
1.3. Email_Newsletter	Email ou newsletter da Base de Dados Social.	
1.4. Workshop_Webinar	Workshop ou webinar da Base de Dados Social.	
1.5. News_Article	Artigo de notícias ou publicação em blog.	
2. Motivations	O que motivou a sua organização a participar na Base de Dados Social? (Ordene por ordem de importância)	
2.1. Visibility	Para aumentar a visibilidade e transparência da nossa organização.	
2.2. Networking	Para estabelecer relações com outras organizações sociais.	Ranking
2.3. Attract_Partners	Para atrair potenciais doadores, parceiros ou voluntários.	
2.4. Access_Resources	Para aceder a recursos e informações a partir dos dados da Base de Dados Social.	
2.5. Workshops	Para participar nos workshops e outras iniciativas da Base de Dados Social.	
3. Other_Motivations	Caso tenha outra motivação que não foi mencionada, por favor descreva abaixo:	Short Answer

4. Usefulness	Avalie a utilidade da Base de Dados Social para a sua organização de 1 a 5, onde 1 = totalmente inútil e 5 = totalmente útil.	Likert Scale
5. Low_Usefulness_Reasons	Caso tenha outro motivo que não foi mencionado, por favor descreva abaixo:	
5.1. Limited_Reach	Visibilidade ou alcance limitado dos dados da minha organização.	
5.2. Insufficient_Benefit	Benefício insuficiente face ao esforço necessário para atualizar os dados na Base de Dados Social.	Ranking
5.3. Navigation_Difficulties	Dificuldade em navegar ou utilizar a Base de Dados Social.	
5.4. Lack_of_Relevant_Features	Falta de funcionalidades ou ferramentas relevantes para as necessidades da minha organização.	
6. Other_Low_Usefulness_Reasons	Caso tenha outro motivo que não foi mencionado, por favor descreva abaixo:	Short Answer
7. Challenges	Quais são os principais desafios para manter os dados da sua organização atualizados na Base de Dados Social?	
7.1. Time_Limitations	Tempo ou equipa limitada para atualizar dados regularmente.	
7.2. Lack_Instructions	Falta de instruções claras sobre quais dados atualizar.	Check Box
7.3. Privacy_Concerns	Preocupações com privacidade e sensibilidade dos dados.	
7.4. Value_Uncertainty	Incerteza sobre o valor ou impacto de manter os dados atualizados.	
7.5. Tech_Difficulties	Dificuldades técnicas com a plataforma.	
8. Overcoming_Challenges	Como é que a Base de Dados Social poderia ajudar a superar esses desafios?	
8.1. Intuitive_Guidance	Proporcionar orientações mais intuitivas para a inserção dos dados.	
8.2. Reminders	Enviar notificações regulares para lembrar sobre a atualização de dados.	
8.3. Immediate_Support	Disponibilizar suporte imediato (e.g., chat, helpdesk).	Check Box
8.4. Transparency_Seals	Implementar selos de transparência como demonstrado na imagem acima, para organizações com diferentes níveis de dados atualizados e informação partilhada.	
8.5. Highlight_Active_Orgs	Destacar nos resultados de pesquisa organizações com maior taxa de dados atualizados.	
8.6. Exclusive_Events	Convidar as organizações para eventos e workshops exclusivos.	
8.7. Data_Use_Clarification	Esclarecer sobre a utilização dos dados recolhidos.	
9. Notification_Frequency	Caso tenha assinalado a opção de notificações regulares, qual a frequência de atualização de dados que a sua organização consideraria mais viável?	
9.1. Twice_Yearly	Duas vezes por ano	Single Choice
9.2. Quarterly	Trimestralmente	
9.3. Annually	Anualmente	
10. New_Features	Que novas funcionalidades ou melhorias aumentariam o envolvimento da sua organização na Base de Dados Social?	
10.1. Data_Export	Exportação dos dados em formatos como CSV ou Excel para análise adicional.	
10.2. Custom_Accounts	Contas da organização com pesquisas guardadas, organizações favoritas e notificações personalizadas.	Check Box
10.3. Custom_Profiles	Perfis da organização personalizáveis que destaquem atualizações recentes ou projetos relevantes.	
10.4. Transparency_Levels	Níveis de transparência para indicar a completude dos dados e o tipo de informação partilhada.	
10.5. Donation_Button	Botão de doação nos perfis das organizações para facilitar contribuições do público.	

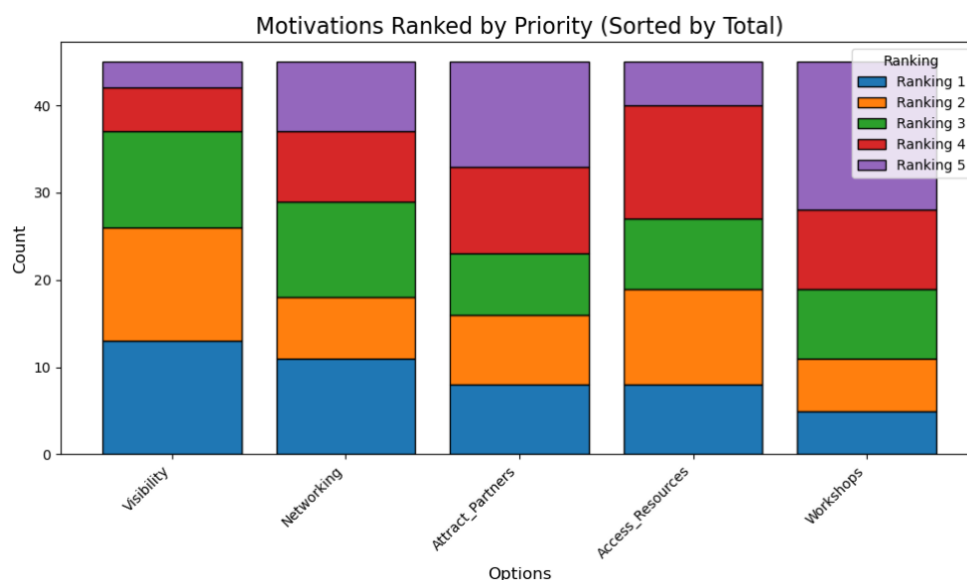
11. Collaboration_Encouragement	A participação na Base de Dados Social incentivou a sua organização a colaborar com outra organização social?	
11.1. Yes_Through_BDS	Sim, já colaborámos com outra organização social através da Base de Dados Social.	
11.2. Yes_Not_Through_BDS	Sim, já colaborámos com outra organização social, mas não através da Base de Dados Social.	Single Choice
11.3. No_But_Interested	Não, ainda não colaborámos com outra organização social, mas gostaríamos de o fazer no futuro.	
11.4. Not_Interested	Não, não estamos interessados em colaborar com outras organizações sociais.	
12. Colaboracion_Tools	Utilizaria alguma das seguintes potenciais ferramentas na Base de Dados Social para facilitar essa colaboração?	
12.1. Messaging_Tool	Centro de Mensagens e Comunicação.	Check Box
12.2. Project_Spaces	Espaços de Colaboração em Projetos.	
12.3. Resource_Sharing	Plataforma de Partilha de Recursos.	
12.4. None	Não utilizaria nenhuma das funcionalidades apresentadas acima.	
13. Suggestions	Utilize o espaço abaixo para partilhar quaisquer outras ideias ou sugestões que possam melhorar a sua experiência na Base de Dados Social. Estamos interessados nas suas opiniões sobre novas funcionalidades, ferramentas de suporte ou outras formas de a plataforma melhor servir as necessidades da sua organização.	Open Ended

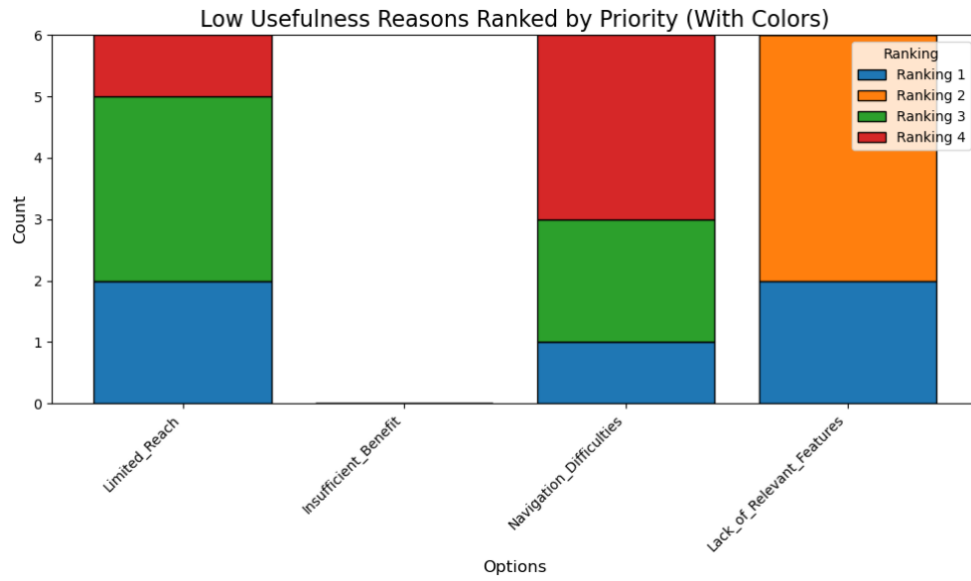
Appendix 4: Frequency Analysis of Survey Responses

Question	Options	Count	Frequency (%)
1. Como teve conhecimento da Base de Dados Social?	Email_Newsletter	16	35.60
	Colleague_Network	15	33.30
	Social_Media	6	13.30
	Workshop_Webinar	3	6.70
	News_Article	1	2.20
7. Quais são os principais desafios para manter os dados da sua organização atualizados na Base de Dados Social?	Other	4	8.80
	Time_Limitations	42	93.33
	Lack_Instructions	12	26.67
	Privacy_Concerns	10	22.22
	Value_Uncertainty	10	22.22
8. Como é que a Base de Dados Social poderia ajudar a superar esses desafios?	Tech_Difficulties	2	4.44
	Intuitive_Guidance	12	26.67
	Reminders	31	68.89
	Immediate_Support	15	33.33
	Transparency_Seals	23	51.11
	Highlight_Active_Orgs	18	40.00

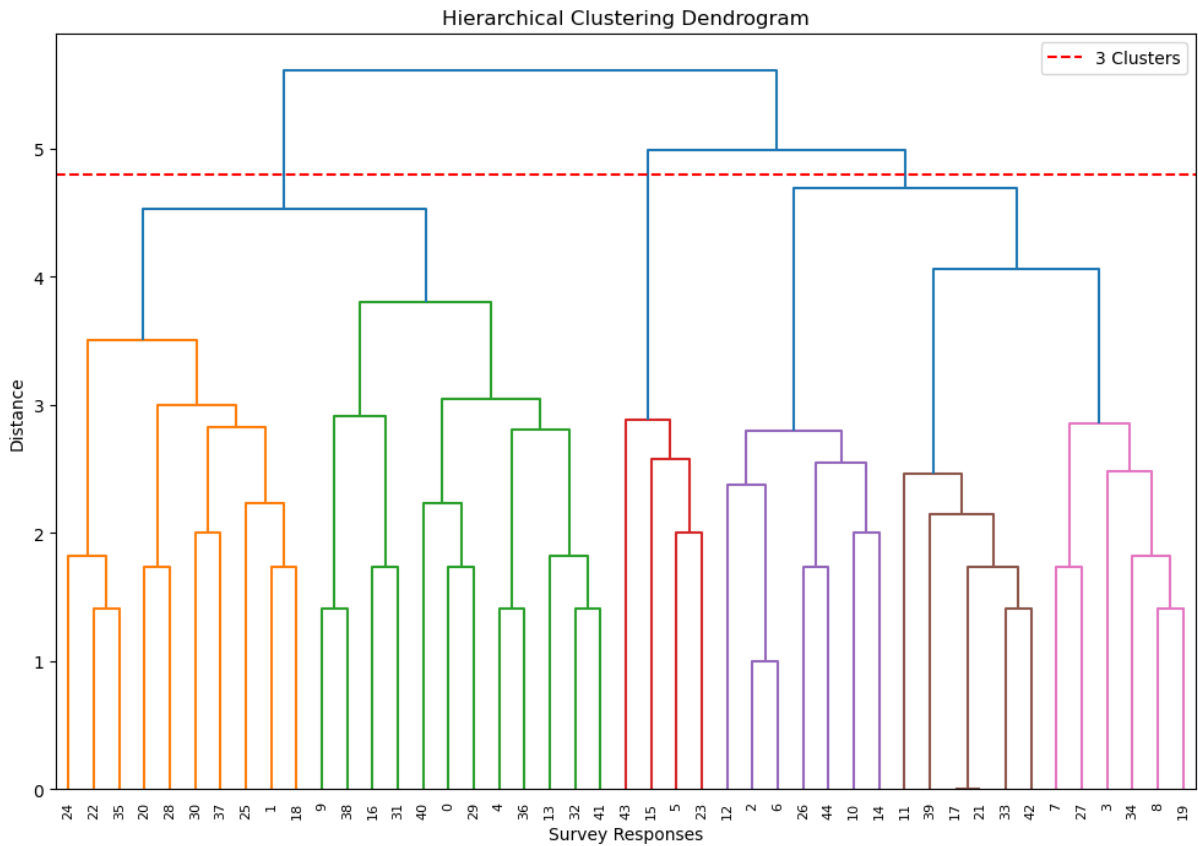
	Exclusive_Events	16	35.56
	Data_Use_Clarification	1	2.22
9. Caso tenha assinalado a opção de notificações regulares, qual a frequência de atualização de dados que a sua organização consideraria mais viável?	Quarterly	18	48.65
	Twice_Yearly	16	43.24
	Annually	3	8.11
10. Que novas funcionalidades ou melhorias aumentariam o envolvimento da sua organização na Base de Dados Social?	Data_Export	24	53.33
	Custom_Accounts	12	26.67
	Custom_Profiles	23	51.11
	Transparency_Levels	16	35.56
	Donation_Button	36	80.00
11. A participação na Base de Dados Social incentivou a sua organização a colaborar com outra organização social?	No_But_Interested	31	68.89
	Yes_Not_Through_BDS	12	26.67
	Yes_Through_BDS	2	4.44
	Not_Interested	0	0.00
12. Utilizaria alguma das seguintes potenciais ferramentas na Base de Dados Social para facilitar essa colaboração?	Messaging_Tool	27	60.00
	Project_Spaces	30	66.67
	Resource_Sharing	40	88.89
	None	1	2.22

Appendix 5: Motivation and Low Usefulness Reasons Rankings and Evaluation Scores

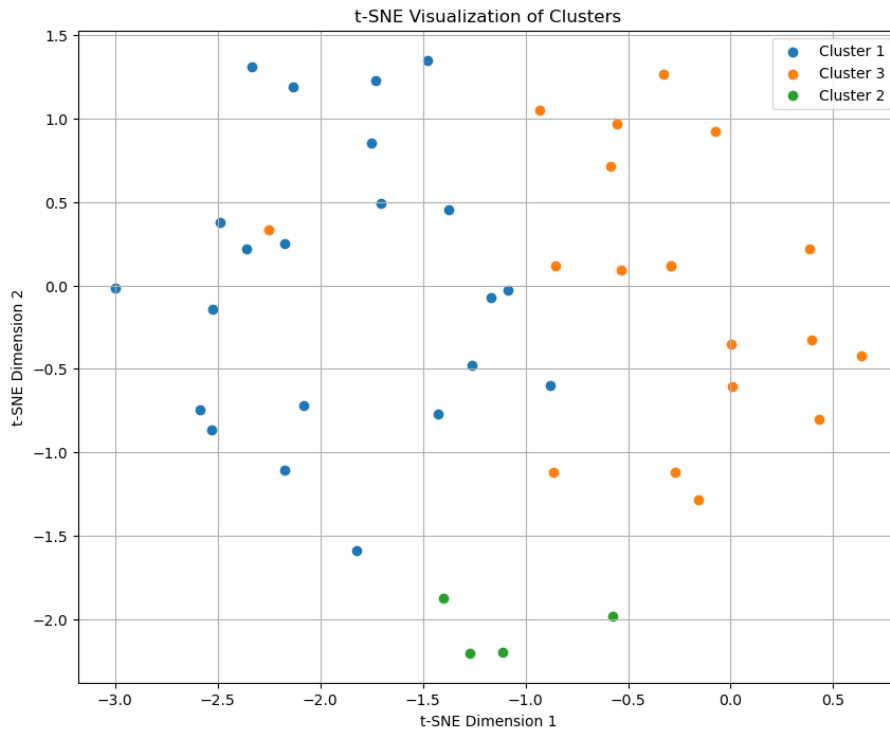




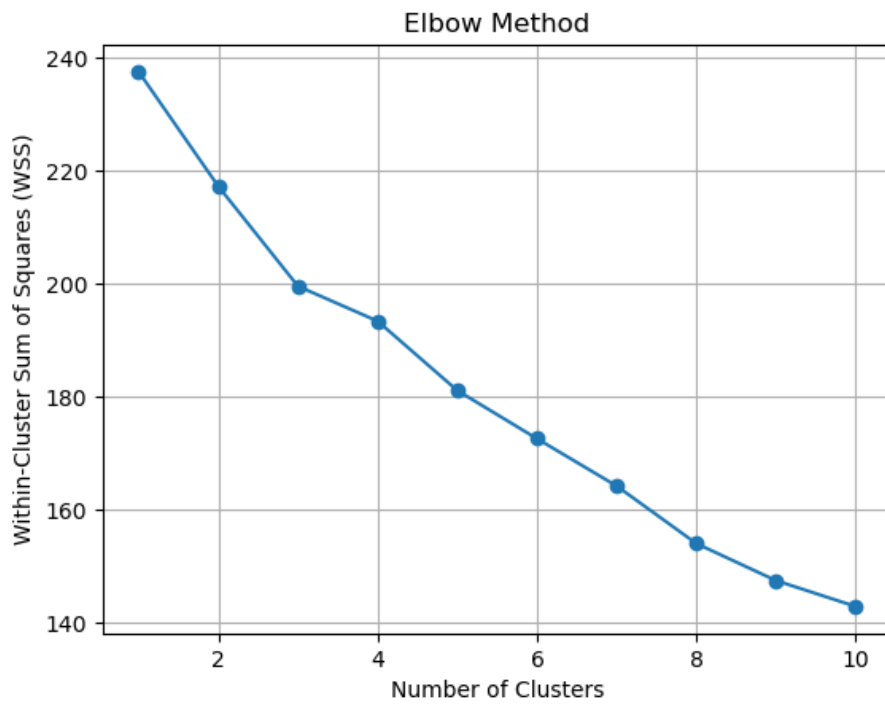
Appendix 6: Hierarchical Clustering Dendrogram



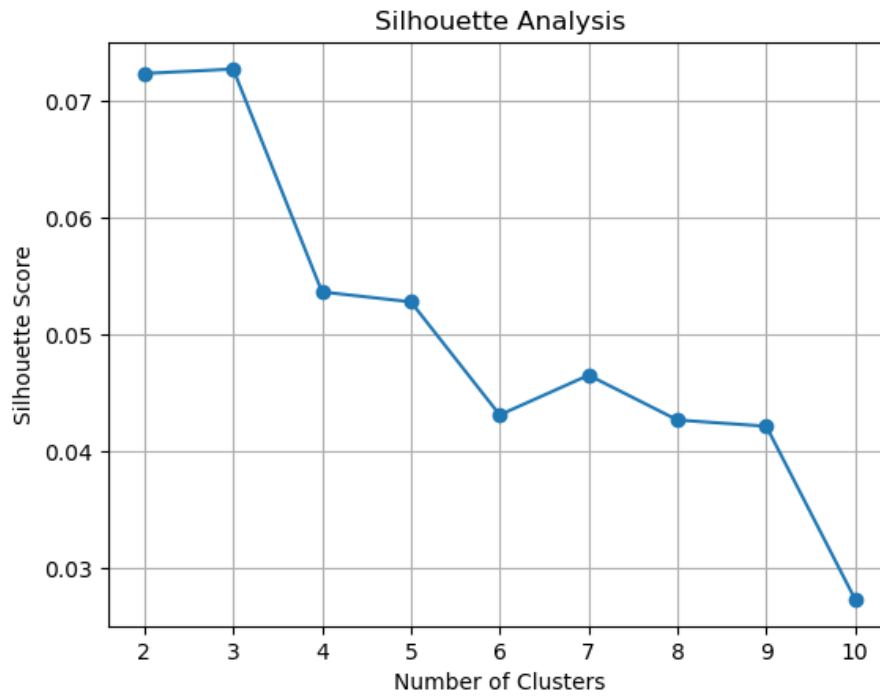
Appendix 7: t-SNE Visualization of Clustering Results



Appendix 8: Elbow Method for Optimal Clusters

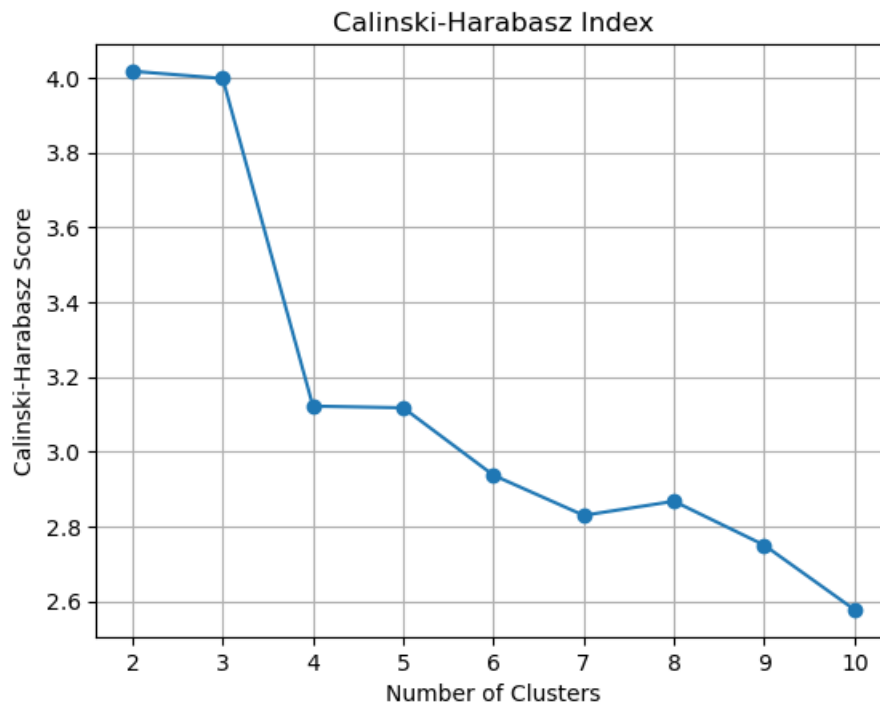


Appendix 9: Silhouette Analysis of Clustering Quality



Note: Higher scores suggest better-defined clusters.

Appendix 10: Calinski-Harabasz Index Scores



Note: Higher scores suggest better-defined clusters.

Appendix 11: Centroid coordinates of hierarchical clusters

Dimensions	Clusters		
	Resource-Focused Collaborators	Highly Motivated Advocates	Resource-Conscious Visibility Seekers
2.1. Visibility	0.23	1	0.89
2.2. Networking	0.5	1	0.16
2.3. Attract_Partners	0.36	0	0.42
2.4. Access_Resources	0.64	0	0.26
2.5. Workshops	0.27	0	0.26
7.1. Time_Limitations	1	1	0.84
7.2. Lack_Instructions	0.23	0.5	0.26
7.3. Privacy_Concerns	0.23	0.5	0.16
7.4. Value_Uncertainty	0.14	0.25	0.32
7.5. Tech_Difficulties	0	0.25	0.05
10.1. Data_Export	0.77	0.5	0.26
10.2. Custom_Accounts	0.41	0.75	0
10.3. Custom_Profiles	0.27	0.5	0.79
10.4. Transparency_Levels	0.23	0.75	0.42
10.5. Donation_Button	0.77	0.5	0.89
12.1. Messaging_Tool	0.55	0.75	0.63
12.2. Project_Spaces	0.73	0	0.74
12.3. Resource_Sharing	1	0	0.95
12.4. None	0	0.25	0

Note: These coordinates represent the average response profiles for each dimension within the cluster. Higher values (close to 1) mean that the dimension is highly relevant for the cluster.

Appendix 12: Cluster Count and Proportion

Clusters	Resource-Focused Collaborators	Highly Motivated Advocates	Resource-Conscious Visibility Seekers
Element Count	22	4	19
Proportion	0.49	0.09	0.42