New digital technologies for social impact assessment: Considerations for Italian social economy organizations

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Abstract

Social Impact Assessment (SIA) holds significant relevance for Social Economy Organizations (SEOs) such as associations, foundations, social enterprises, social cooperatives, and consortiums for accountability and strategic planning purposes.
In Italy, the Third Sector Reform passed in 2016 mandates that an SIA should be conducted by third sector entities when they fall under specific circumsances as specified in the guidelines introduced in 2019. Notably, these guidelines do not propose a specific SIA model for Third Sector Entities (TSEs) but consider acceptable models that are internationally recognized in literature and practices. In this paper, we explore the opportunity to consider new digital technologies such as digital platforms, big data, blockchain, and artificial intelligence, to implement SIA for SEOs. We conduct a systematic literature review (SLR) on the intersection of SIA and digitalization in the context of SEOs. The bibliometric analysis aims to show main authors, countries, journals, and keywords associated with the literature on digital technologies and SIA of the SEOs. Finally, various themes and trend topics were identified in this studied literature. We conclude with suggestions for further research.

Keywords: Social impact assessment, Social Economy, Nonprofit, Third sector, digital technologies.

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Introduction

Increasingly, organizations are asked to report on social impact to demonstrate the financial, social, and environmental value they are creating. This is particularly true for third or social economy sector organizations such as associations, nonprofits, foundations, social enterprises, and social cooperatives.

The *Organization for Economic Co-operation and Development* (OECD) and the *European Commission* consider social impact assessment (SIA) fundamental for all European Social Enterprises (2015). Social impact is also a key issue for Italian *Third Sector Entities* (TSEs) ruled by the Third Sector Reform of 2016 (*Law 106/2016, art. 7*). Both the Code of the Third Sector (Decree 117/2017) and the Decree that rules the Social Economy Enterprises (Decree 112/2017) refer to SIA.

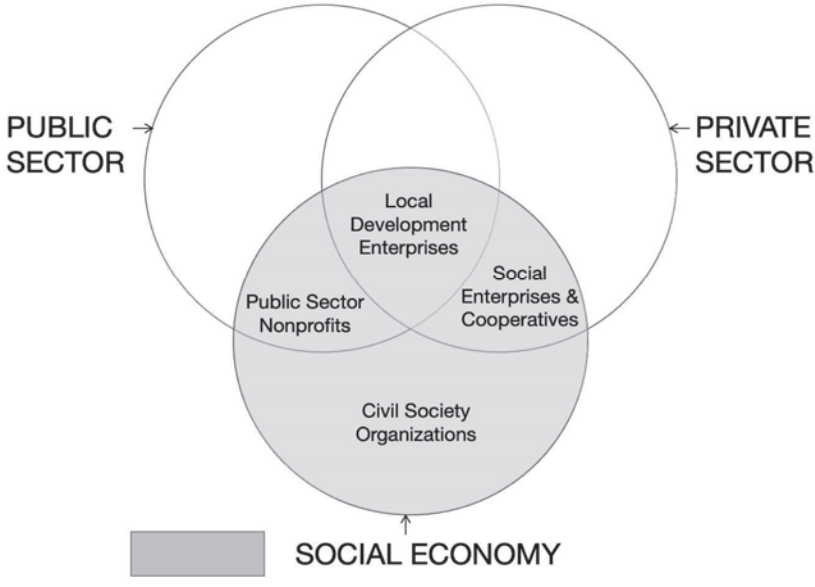
In Italy, the first guidelines on SIA were published in the *Decree of the Ministry of Labor and Social Policies, July 23, 2019,* and established that SIA is required only when large projects are commissioned by a public administration or the government (national, regional, local). Therefore, the Italian Third Sector Reform requires that a SIA is conducted if the project or the public interest initiative is long-lasting (at least eighteen months); financially solid (more than 1-million-euros); and not local (developed in an interregional, national, or international context). The consequence is that if a private organization that is under the above conditions does not assess the impact, the government (or the public administration) could not support its project or initiative. Furthermore, the Reform suggests incorporating SIA especially for organizations that promote large-scale initiatives of co-production and planning with public administrations and the Government. In other cases, organizations could freely decide to measure and assess the social impact for accountability reasons.

In this paper, we explore the intersection of SIA and digitalization in the context of social economy organizations such as nonprofits, social cooperatives, and social enterprises. We start by introducing the concept of social economy organizations in the Italian context. After reviewing the content of the Italian Guidelines that discusses SIA and digital technologies, we then conduct a structured literature review on digitalization and SIA with a special focus on models and frameworks for social economy organizations.

Social Economy Organizations

Social Economy Organizations (SEOs) are organizations such as non-profit institutions (NPIs), third sector entities (TSEs), social enterprises and cooperatives (SEs), and benefit corporations "that prioritize social economy objectives over their economic ones" (Mook, Whitman, Quarter, & Armstrong, 2015, p. 3). In Figure 1, the social economy is portrayed as part of a mixed economy, overlapping with the public and private sectors.

Figure 1 – "The Social Economy: An Interactive Approach."

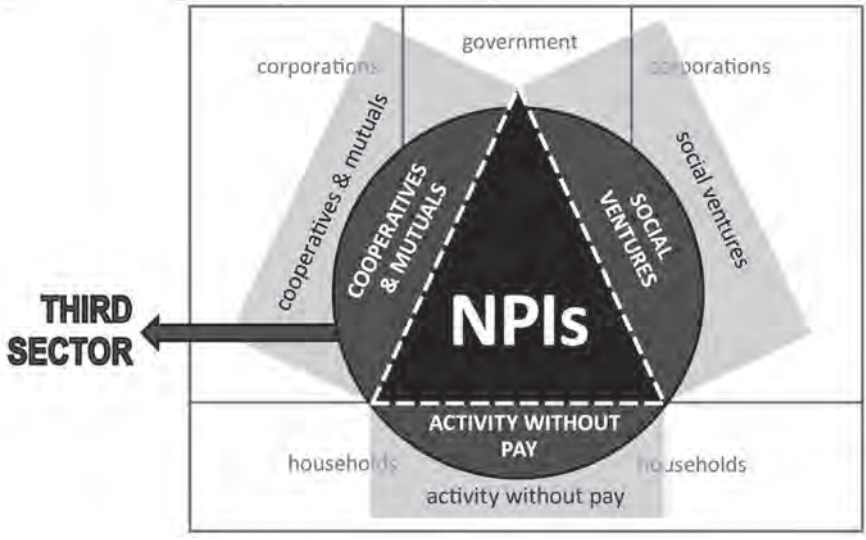


Source: *Adapted from Mook et al., 2015, p. 14.*

Salamon and Sokolowsky in 2016 provided a re-conceptualization of the Third or Social Economy Sector (TSE) as stated also in the 2018 *United Nations Handbook, Satellite Account on Non-profit and Related Institutions and Volunteer Work* (United Nations, 2018): "In particular, to be considered part of the TSE sector, entities must be *Organizations*, whether formal or informal; *Private*; *Self-governed*; *Non-compulsory*; and *Totally or significantly limited from distributing any surplus they earn* to investors, members, or other stakeholders" (Salamon & Sokolowski, 2016, p. 1533).

This can be illustrated in several ways. In Figure 2, Salamon and Sokolowski (2016) showed how the TSE Sector includes nonprofit institutions (NPIs), social cooperatives, social enterprises, and activity without pay.

Figure 2 – "Conceptualizing the third sector: a first cut."



Source: Salamon & Sokolowski, 2016, p. 1531.

In the Italian context we refer to the following relevant types of organizations and entities, with specific characteristics and rules:

- *Nonprofit Institutions* (NPIs);
- *Third Sector Entities* (TSEs);
- *Social Enterprises and Cooperatives* (SEs).

Nonprofit Institution (NPI) is the term used by the National Institute of Statistics (ISTAT) to identify associations, foundations, and other organizations that fall in the NPI satellite account working definition. They "define the non-profit sector as consisting of (a) organizations; that (b) are not-for-profit and, by law or custom, do not distribute any surplus they may generate to those who own or control them; (c) are institutionally separate from government; (d) are self-governing; and (e) are non-compulsory (United Nations, 2003, pp. 17-20)". In practice, some examples of NPIs considered in the System of National Accounts are Nonprofit service providers; non-governmental organizations; Arts and culture organizations; Sports clubs; Advocacy groups; Foundations; Community-based or grass-roots associations;

Political parties; Social clubs; Unions; and Religious congregations (United Nations, 2003, pp. 17-20). Data from the 2020 ISTAT Statistical Register[1]showed a growing sector, with 363,499 entities (336,275 in 2015, 301,191 in 2011, and 235,232 in 2001) with 870, 193 employees. This breaks down to associations (85.2%), social cooperatives (4.1%), foundations (2.3%), and others (8.4%).

Social Impact Assessment in the Italian Third Sector Reform

In 2016, the Italian Ministry of Labor and Social Policies began a process of Third Sector Reform. For the first time, it defined *Third Sector Entities* (TSEs). Art. 1 of Law 106/2016, and the derived art. 4 of the new Third Sector Code (D. 117/2017), define Third Sector Entities (TSEs) as voluntary organizations, social promotion associations, philanthropic entities, associative networks, mutual societies, recognized and not recognized associations, foundations, and other private entities, different from the companies or corporations, with nonprofit, civic, charitable, and social objectives that they pursue through activities of collective (general) interest, i.e., volunteering, donations (of money, goods, or services), mutual activities, commercial activities. To obtain the status of a TSE, organizations apply to the *National Register of the Third Sector* (*Registro Unico Nazionale del Terzo Settore* or RUNTS). Public entities, political and professional associations or groups, labor unions, etc., are excluded under the definition of a TSE. Religious entities are considered TSEs only if they perform general (or collective) interest activities as defined in Art. 5 of the TS Code and if these activities are formally separated from the religious ones. Social cooperatives, their consortiums, and social enterprises are considered in the boundary of the Third Sector if they perform collective interest activities as listed by the Law (LD 112/2017, art. 2). They are strongly limited (LD 112/2017, art. 3) from distributing any surplus they earn to investors, members, or other stakeholders (Berardi, Mook, & Rea, 2021).

[1] "The permanent census of nonprofit institutions provides a statistical picture of the sector in Italy, by measuring size, organizational framework, human resources, economic and social dimensions of nonprofit institutions". Retrieved from: https://www.istat.it/it/archivio/275918 (June 2023).

The strategy for the permanent census of nonprofit institutions is based on two key elements: the use of a Statistical Register, and the sample survey. The last sample survey (2022) was closed on November 23, 2022, and engaged about 110.000 Italian NPIs, new data on the Italian Nonprofit are available from May 2023. Retrieved from: https://www.istat.it/it/files//2023/05/Censimento-non-profit-primi-risultati.pdf (June 2023).

The RUNTS was launched on November 23, 2021. About 88,000 voluntary organizations and social promotional associations are transmigrating. Furthermore, about 24,000 social enterprises and mutuals will be also included in the Register. At the end of May 2023, the total number of registered TSEs in the RUNTS is 104,098, of which 39,031[2] are newly registered TSEs.

Guidelines[3] for Social Impact Assessment (SIA) will help drive TSEs towards the challenging process of assessing the social impact of the organizations. Furthermore, the Guidelines on the Social Report refer to the social Impact process and suggest where the information on social impact should be described in the Social Report (part 5: Mission, Objectives, and activities).

For Grieco, Michelini, & Iasevoli (2015, p. 1175), social impact "is described as a combination of resources, inputs, processes, or policies that occur as a result of the real, implied, or imagined presence or actions of individuals in achieving their desired outcomes." As a result of the externally induced change, social impact includes intended and unintended effects, negative and positive effects, and both long- and short-term consequences (Grieco et. al. 2015). The definition of Social Impact proposed by the Italian legislator (Zamagni, Venturi, & Rago, 2015) incorporates qualitative and quantitative elements of services provided by the organization; the direct, short-term, and medium-long-term effects related to the consequences and the changes induced on the community. The object of the social impact assessment of TSEs is the effects of their activities.

A SIA is not mandatory for all TSEs. The SIA process engages different stakeholders, such as funders, donors, beneficiaries or clients, employees, collaborators, partners, volunteers, citizens, public entities, and other stakeholders (e.g., the local community). The choice of methods and the metrics are free for the TSEs to choose. However, they should be inspired by the following principles: *intentionality, relevance, reliability, measurability, comparability, transparency, and communication*.

In terms of content, the SIA should show the value-added created, the social change activities performed, and the sustainability of the social action. This process should consider the following main elements: *stakeholder engagement to activities; services; input; output; outcome*; and it should develop the following phases: *1) analysis of the context and needs; 2) planning; 3) activities and methods; 4) assessment; 5) communication*. CSVs – i.e.,

[2] Data provided by the Ministry of labor and social policy in May 2023.

[3] Cf. *"Decreto 23 luglio 2019, Linee guida per la realizzazione di sistemi di valutazione dell'impatto sociale delle attività svolte dagli enti del Terzo settore" (GU Serie Generale n. 214 del 12-09-2019).* Retrieved from: https://www.gazzettaufficiale.it/eli/gu/2019/09/12/214/sg/pdf (December 2022).

Service Centers for Volunteering and Third Sector (Costa, Ramus & Andreaus, 2011; Costa et al., 2014; Costa, Dossi, 2022) could support the TSEs during this complex process. The Guidelines consider acceptable equivalent international systems and models of SIA, especially for TSEs who work in international contexts.

Social Impact Assessment

The definition of *Social Enterprises* (SEs) in Law 106/2016 and Decree 112/2017 is strictly related to the concept of *social impact* as a result of the production and the exchange of goods and services of social benefit (Zamagni et al. 2015), with the possibility to be the beneficiary of social impact investment tools (Social Impact Investment Task Force, 2014).

The *impact* is "the portion of the total outcome that happened as a result of the activity of the venture, above and beyond what would have happened anyway." (Clark, Rosenzweig, Long, & Olsen, 2004). *Social Impact* is defined by Nicholls as "the measurable outcomes of material changes experienced by target populations as the result of deliberative organizational action. As such, it does not include externalities or accidental consequences that are not material to target stakeholders. Such impact can also be either good/positive or bad/negative." (Nicholls, Page 150, 2018) Furthermore, he demonstrated that, especially for encouraging and promoting social finance, "within the third sector, generally, there has been a move towards more rigorous social impact measurement and reporting." (Nicholls, Page 133, 2018).

We refer to the *Impact Value Chain* that identifies Inputs, Operations, Output, Outcome, Impact, and deadweight (Clark et al., 2004). The European Venture Philanthropy Association (EVPA, 2013), and GECES (2014) define these concepts as:

- *Inputs* are all resources, whether capital or human, invested in the activities of the organization – i.e., what resources are used in the delivery of the intervention;
- *Activities* are the concrete actions, tasks, and work carried out by the organization to create its outputs and outcomes and achieve its objectives – i.e., the intervention;
- *Outputs* are the tangible products and services that result from the organization's activities – i.e., how that activities touch the intended beneficiaries;
- *Outcomes* are the changes, benefits, learnings, or other effects (both long and short term) that result from the organization's activities – i.e., the change arising in the lives of beneficiaries and others;

- *Social Impact* is the attribution of an organization's activities to broader and longer-term outcomes – i.e., the extent to which that change arises from the intervention;
- *Deadweight* – i.e., what changes would have happened anyway, regardless of the intervention (European Venture Philanthropy Association, 2013; GECES, 2014).

The value created by an organization can be measured by considering *qualitative* and *quantitative* (monetization) techniques and methodologies (European Venture Philanthropy Association, 2013). Zamagni *et al*. (2015) identified about 40 methodologies and tools recognized at the international level with different levels of measurement (*output, outcome, impact*), and different measurements (*monetary, non-monetary*). Most of them (24) measure the value created also at the "*Impact*" level.

Social impact measurement can be described as a process with five stages as proposed by EVPA and GECES (Sub-group on Impact Measurement 2014) with a bottom-up approach: *1) identify objectives; 2) identify stakeholders; 3) set relevant measurement; 4) measure, validate and value; and 5) report, learn and improve.*

Grieco et al. (2015) classified 76 Social Impact Models into four clusters, considering 7 main features:

1. *Simple Social Quantitative models* (14%) are based on quantitative indicators. The time frame of the analysis is retrospective. They are easy to apply, generic, or applicable in any sector. They were proposed by several promoters: research centers, universities, nonprofit networks, nonprofit organizations, consulting firms, and institutions (e.g., Cost per Impact method developed by the Center for High Impact Philanthropy, University of Pennsylvania).
2. *Holistic Complex models* (26%) are characterized by both qualitative and quantitative variables. The typology of impact measured by these models is primarily holistic or based on the overall added value. The main purposes are screening to verify the achievement of specific objectives and reporting for reasons of stakeholder accountability. The focus on reporting and communication of results achieved makes these models particularly suited for obtaining funding. These models have a high degree of complexity and apply to any sector. The time frame is ongoing or retrospective, and the models are developed primarily by NP networks (e.g., GRI Sustainability Reporting Framework);
3. *Qualitative Screening models* (41%) employ qualitative variables. The typology of measured impact is mainly holistic. The time frame is retrospective, and due to their qualitative nature, these models have a basic

level of complexity. They can also be applied to specific sectors and have been developed by a variety of organizations (e.g., Charity Analysis Framework produced by NEF);

4. *Management models* (18%) use qualitative or quantitative variables and aim to measure different types of impact (e.g., holistic, employees, environmental, social, and economic). They are characterized mainly by their purpose as they are used for management or certification and are applied during the activities (ongoing time frame). These models are generic and are primarily employed by consulting firms and institutions (e.g., EMAS - European Union Eco-Management and Audit Scheme).

According to Zamagni et al. (2015), the most cited SIA models and tools in the international literature are: BACO ratio (Best Available Charitable Option); Cost-Benefit Analysis (CBA); Social Return On Investment (SROI) (Arvidson, Lyon, Mckay, & Moro, 2013; Bellucci, Nitti, Franchi, & Testi, 2018; Courtney, 2018; Gibbon & Dey, 2011; Maier, Schober, Simsa, & Millner, 2015; Nielsen, Lueg, Van Liempd, 2021; Purwohedi & Gurd, 2019); Balanced Scorecard (Bengo *et al*., 2015); Social Impact Assessment (SIA); GRI Sustainability Reporting Framework; Randomized Controlled Trials (RCT); Outcomes star; IRIS (Impact Reporting and Investment Standards). Also, Zamagni et al. (2015) developed their own methodological framework for the accounting and the measurement of Social Impact. Other methods are developing in practice – e.g., the "ImpACT" of EURICSE (Depedri, 2016). Authors have also identified performance measurement models for Italian social enterprises (Arena *et al*., 2015; Bagnoli, Megali, 2011). Other authors studied SIA of SEOs and related projects or initiatives in different fields of activities – i.e., education, art and disability (Mwambela & Mwendia, 2019), local government (Purwohedi & Gurd, 2019), development and humanitarian aid (Seyedsayamdost & Vanderwal, 2020), and cultural ecosystem (Sherren, Parkins, Smit, Holmlund & Chen, 2017).

Digitalization

Digital innovation (or digitalization) could play a fundamental role in the accountability and governance of the social economy, especially Blockchain Technology and Distributed Ledger Technologies (DLTs). Indeed, some preliminary research on this topic can be found in the literature over the last decade (Al-Saqafa & Seidler, 2017; Mangla *et al*. 2021; Seyedsayamdost & Vanderwal, 2020). Also, Big Data (Dicuonzo, 2021), Artificial Intelligence,

and digital platforms could positively affect projects, initiatives, and operations of organizations that pursue social goals, but no relevant studies have already demonstrated this relationship.

Digital innovations such as blockchain technology (Valentinetti, Rea, 2022; Spanò *et al*., 2023), could be useful for tracking and reporting the social impact produced by SEOs. IBM defines blockchain as "a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network."[4] Blockchain Technology could facilitate public-private partnership (PPP) where the government (public administration, i.e., local, regional, national, and European government) delegates some of its responsibility to a private partner through a long-time agreement. The fields of co-production and co-planning between public and private could be potentially unlimited, and Third Sector Entities (TSEs) have a preferred role as established by the law (Decree 117/2017, art. 55; and Sentence 131/2020). They are the only accreditable entities that can co-produce (and co-plan) services with the government from a vertical subsidiarity perspective (Constitution Act, art. 118). The accountability and transparency between the public and private partners could be guaranteed by blockchain technology.

Al-Saqaf and Seidler (2017, p. 2) defined blockchain as "a distributed digital ledger or accounting book" with potentially numerous applications "since they allow disintermediation in ways that can potentially empower people in trade, expression, democratic participation, social interaction, and financial freedom." The authors described some applications of blockchain technology that positively impact society, due to the characteristics of transparency, accountability, equality, and autonomy, that "could facilitate progress in areas such as online identity, human trafficking, corruption, fraud, democratic participation, and freedom of expression" (Al-Saqaf & Seidler, 2017, p. 12).

Seyedsayamdost and Vanderwal (2020) examined three different use cases of blockchain-based initiatives creating positive social impact. For the authors, "Blockchain is also highly reliable – all transactions are immutably recorded; indeed, its immutability has been considered one of this technology's most transformative aspects, as it is tampering proof and, as such, ostensibly guarantees transparency and accountability" (Seyedsayamdost & Vanderwal, 2020, p. 944).

These first experiences described in the literature, open the way to a new research agenda that requires multidisciplinary approaches and perspectives.

[4] Definition of Blockchain retrieved from the IBM website (December 2022): https://www.ibm.com/topics/what-is-blockchain.

Several scientific contributions were published on the methods of SIA applied to social economy organizations, but fewer studies focused on the practical tools that translate theoretical methods into practical instruments useful for improving accountability and transparency of social impact organizations. Blockchain or similar distributed ledgers could be one of these innovative tools but should be studied further, taking into account applications in different fields of activities, and the significant environmental concerns due to the large amount of energy required for blockchain mining, the process used to verify transactions.

Systematic Literature Review Methodology

We conducted a systematic literature review to identify possible useful applications of the digital tools and technologies to the SIA of social economy organizations. Our Systematic Literature Review was conducted in Scopus, the largest database of peer-reviewed literature, and used by many scholars to perform a bibliometric analysis. Furthermore, we used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram as reported in the flow diagram in Figure 3 to manage and describe the process of our analysis (Ianniello *et al*., 2019).

To assure the quality of our analysis, we considered only articles, book chapters, reviews, and conference papers. All selected documents were written in English. The Scopus first search string was:

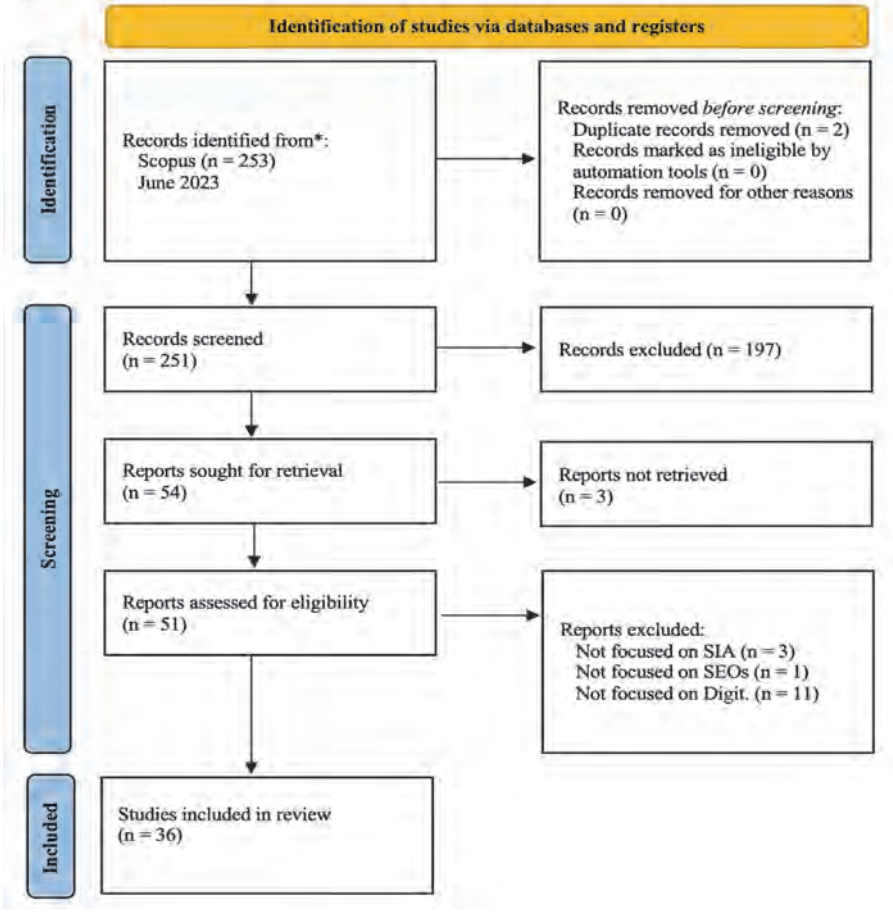
> *(ALL ("social impact assessment" OR "social impact measurement" OR "social impact indicators" OR "social impact evaluation") AND ALL ("social economy" OR "nonprofit" OR "third sector" OR "social enterprise" OR "social cooperative" OR "charit*" OR "non profit" OR "not for profit") AND ALL ("Digital*" OR "blockchain" OR "artificial intelligence" OR "cloud" OR "internet of things" OR "machine learning" OR "mobile app" OR "smart tech*")) AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "re") OR LIMIT-TO (DOCTYPE, "cp")) AND (LIMIT-TO (LANGUAGE, "English")).*

After this first search resulting in 225 documents, we added a new search of 30 documents using this further string:

> *(TITLE-ABS-KEY ("performance measurement") AND ALL ("social economy" OR "nonprofit" OR "third sector" OR "social enterprise" OR "social cooperative" OR "charit*" OR "non profit" OR "not for profit") AND TITLE-ABS-KEY ("Digital*" OR "blockchain" OR "artificial intelligence" OR*

"cloud" OR "internet of things" OR "machine learning" OR "mobile app" OR "smart tech")) AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "re") OR LIMIT-TO (DOCTYPE, "cp")) AND (LIMIT-TO (LANGUAGE, "English"))*

Figura 3 - Flowchart of the systematic literature review based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria



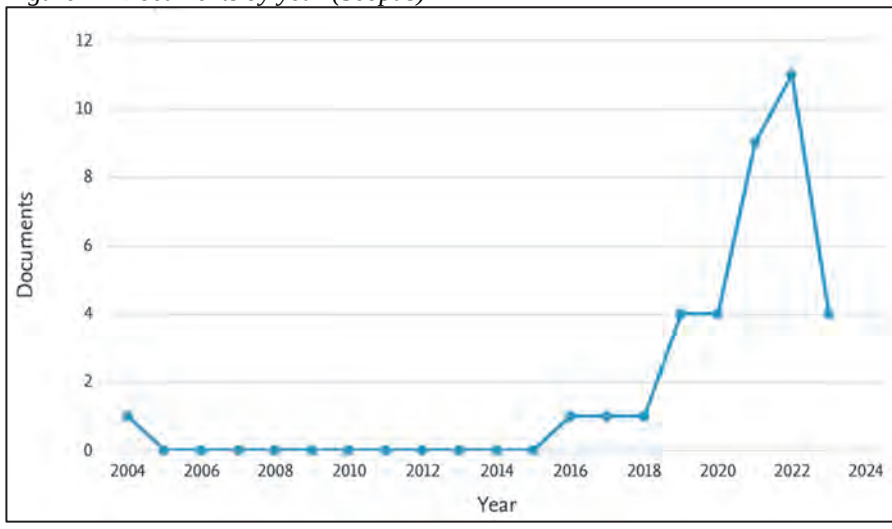
The number of articles returned as result of the search strings was 255. There were 4 duplicates, leaving 251 to analyze. The program rayyan.ai was used for the first screening. The title, abstract and keywords of these articles were reviewed independently by the two authors. Conflicts in rating were discussed until a consensus was reached. After the first screening of title, abstract and keywords, we identified 54 papers for the second screening of

full papers. All but three of the papers were available for download which left us with 51 papers. The collaborative analysis of the full papers' contents was made using Zotero as a repository for the selected 51 documents. An additional 15 papers were eliminated as they did not meet the criteria, leaving 36 papers for the final analysis.

Findings

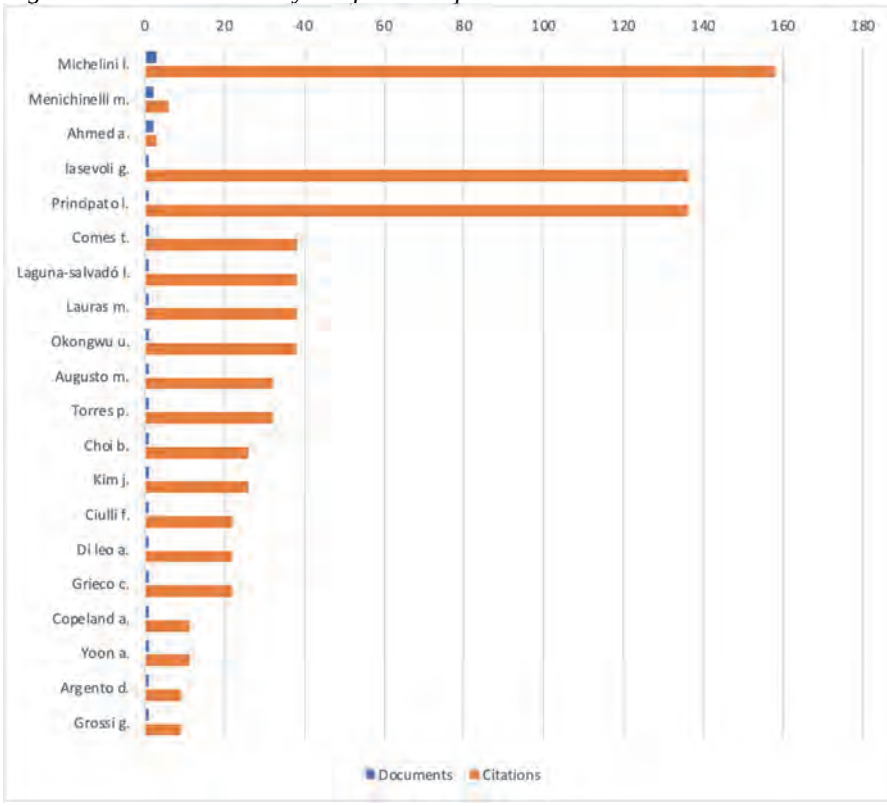
As Figure 4 shows, most of the documents on the intersection of digitalization and SIA for social economy organizations were published during the last decade with a peak in 2022. The first document was published during 2004.

Figure 4 - Documents by year (Scopus)



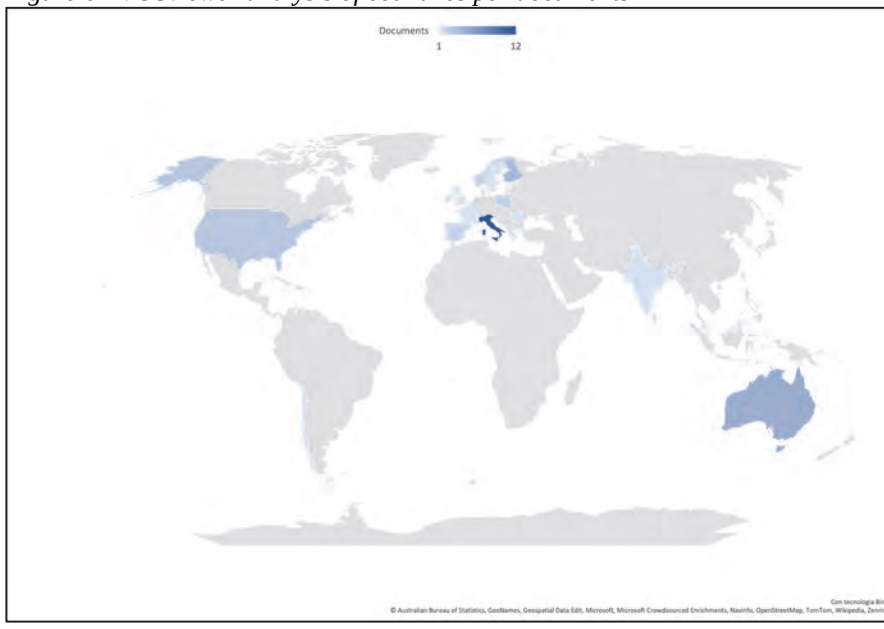
As shown in Figures 5 and 6, the authors with the highest number of documents, and citations in this area are based in Italy, probably due to the impetus provided by the legislator, and the increasing interest demonstrated in accounting practices there during the last few years.

Figure 5 - VOSviewer analysis of authors per documents and citations



Indeed, the top three cited authors are Italians – i.e. Michelini (158 citations), Iasevoli, and Principato (both 136), and the country with the highest number of citations is Italy (179 citations), followed by the Netherlands (61), Norway (47), France (38), and Portugal (32).

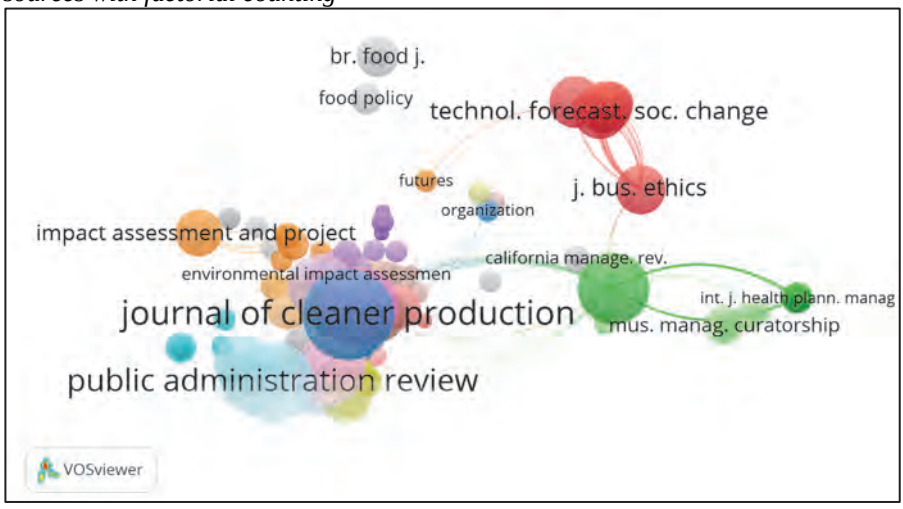
Figure 6 - VOSviewer analysis of countries per documents



The European interest on these topics is also demonstrated by the funding sponsors identified by the Scopus bibliometric analysis, for instance Horizon 2020 and other European funding programs. Fourteen papers did not list a funding source.

The results of the co-citation analysis of the cited sources, made with VOSviewer, identify the most important journals where the debate on the digitalization of SIA in SEOs is developing (Figure 7). Co-cited journals with more than 15 citations are the *Journal of Cleaner Production* (34 citations), *Public Administration Review* (27), *Journal of Social Entrepreneurship* (26), *Sustainability* (21), *International Journal of Productivity and Performance Management* (19), *Journal of Business Ethics* (19), and the *British Food Journal* (17). Our co-citation analysis shows a relatively young research line that, given its multidisciplinary nature, does not have specific journals with relative power of influence in terms of citations.

Figure 7 - VOSviewer network visualization of the co-citation analysis of cited sources with factorial counting



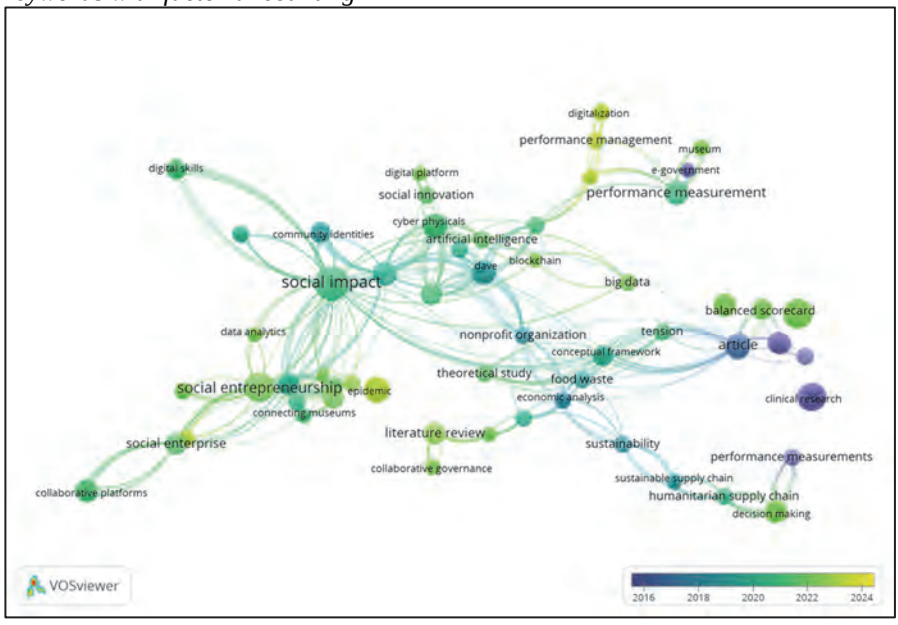
The VOSviewer keywords co-occurrence analysis with a full counting method shows the following result by a network visualization (Figure 8). The keyword colors demonstrate how recently (or not) they have been used in the existing literature. Digitalization (and related keywords of digital platform, AI, blockchain, and big data, data analysis), performance management and measurement (and related keywords of BSC, decision making, collaborative governance), and social entrepreneurship (and related keyword of social enterprise) are the most prevalent emerging topics in the literature considered in our analysis.

The all-keywords analysis done with VOSviewer allows us to identify the trending themes. Three key themes are type of tool, applicability to operations, and fields of application.

Themes several tools that can facilitate the implementation of SIA in SEOs. Most of the 36 selected documents discuss about digital platforms. Digital platforms could be effectively used for social innovation in the volunteering sector (Caridà *et al*., 2022), and for supporting and assessing the new emerging hybrid communities and their distributed activities in the post-pandemic hybrid spaces (Manzini, Menichinelli, 2021). Furthermore, Collaborative and Sharing Economies (CSE) platforms are also used for mapping the social impact (Sanna, Michelini, 2021). Other digital technologies and tools are considered in some documents, such as blockchain; Internet of

Things; big data, open data, data analytics (van Elten *et al*. 2022; Ingrams, 2016; Yoon, Copeland, 2019; Zulkefly *et al*., 2022). Some are literature reviews (Berardi, Valentinetti, 2023; De Bernardi *et al*., 2021).

Figure 8 - VOSviewer overlay visualization of the co-occurrence analysis of all-keywords with factorial counting



Several authors highlight the importance of digitalization for operations. This includes governance performance (Ingrams, 2016; Grossi, Argento 2022), performance measurement and management (Patil *et al*., 2022; Sardi *et al*., 2022), dashboard and Balanced Scorecard (BSC) (Vărzaru, 2022), Decision Support Systems (DSS) (Laguna-Salvadó *et al*., 2019), and value creation (Choi Kim, 2021; Davide, 2021; De Bernardi *et al*., 2021). This is especially evident in healthcare management (Vărzaru, 2022); humanitarian supply chain management (Laguna-Salvadó *et al*., 2019; Patil *et al*., 2022); social services (Itkonen, 2004; Davide, 2021); cultural institutions (Agostino, Costantini, 2021; Choi, Kim, 2021); and in the intersection between public and private nonprofit sector (Ingrams, 2016; Grossi, Argento, 2021; Sardi *et al*., 2022).

In general the digitalization of SIA in the SEOs context is mostly related to specific fields of activities, such as cultural, heritage, and museums (Ago-

stino, Costantini, 2021; Choi, Kim, 2021; Sakalauskas *et al*., 2021), education (Ahmed, 2019), health care (Itkonen, 2004; Korhonen *et al*., 2023; van Elten *et al*., 2022; Vărzaru, 2022), humanitarian (Laguna-Salvadó *et al*., 2019), well-being (Torres, Augusto, 2020), social assistance for youth and older people (Pawluczuk *et al*., 2020; Peterlin *et al*., 2021), food recovery and distribution (Michelini *et al*., 2018; 2020), and community development. For instance, the Digital Access Vehicle (as referred as, DAVe) deployed a digital literacy program through a mobile transport platform to initially facilitate digital literacy and education delivery to female students in remote communities of Pakpattan. The project is carried out in collaboration with an Australian university, an Australian not-for-profit organization, and a Pakistan-based community organization." (Ahmed, 2019).

Limitations and Further Research

As with any systematic literature review, there are limitations to the results as some relevant articles could be missed due to the specific keywords in the search parameters. Furthermore, our analysis has used just one database (Scopus). Future studies could take documents from different databases such as the Web of Science and Google Scholar and compare the results.

Further research could study how digitalization could increase the capability of the social economy organizations to measure and assess the social value created and distributed. Moreover, empirical evidence and practical experience of co-production and partnership between private and public organizations could explore how digitalization could facilitate data transmission, stakeholder engagements, transparency, and accountability.

Further study should consider all possible applications of SIA (not only for SEOs) and explore the existence of good practices both in business and social economy contexts. Furthermore, good practices in specific fields of nonprofit activities (e.g., blockchain applied in the food recovery and distribution charitable initiatives) should be analyzed in different further contexts for verifying the advantage of traceability and transparency of digitalization for accountability and social impact assessment.

Conclusion

The implementation of the Italian (and European) plan of recovery and resilience (PNRR) and the increasing attention to the United Nations 2030 SDGs are stimulating projects and initiatives that involve new technologies

and higher levels of digitalization in social economy organizations. Indeed, those experiences offer the opportunity to investigate how these digital innovations affect the capabilities of different actors (government, nonprofit, and business entities) to achieve social and sustainable goals.

The last ISTAT Census of the Nonprofit Institutions (NPIs) introduced, for the first time, a section of questions focused on the digitalization of NPIs. The results of this survey – presented May 2023, demonstrated that the digital transformation of these types of organizations is at its infancy. The digitization process is appearing in some industries, such as health, culture, education, food chain, humanitarian, and social assistance. Some tools are identified as useful for the SIA (e.g., culturomic tools, machine learning, image digitization, data aggregation and visualization, big data, artificial intelligence, robotics, blockchain), but empirical evidence of their effectiveness is poor at this moment.

Our study is a preliminary analysis of a specific part of the literature that explores the intersection of digitalization of social impact assessment in the context of social economy organizations. As technology continues to advance, a similar analysis in a few years may well show much different results.

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