Exploring the Impact of Digitalization on the Social Economy: A Systematic Literature Review

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Abstract

Digitalization has a significant impact on the social economy organizations, acting as a key driver of growth and success. This paper aims to explore the effects of digitalization on the social economy. We conducted a thorough systematic review of 40 articles using the PRISMA protocol, and we utilized NVivo software to classify and arrange the identified themes in the studies. Our study demonstrates that digital tools are essential, empowering social economy organizations to achieve their goals with greater confidence. We considered technologies such as Big Data that powerful tools for gaining deeper insights into social issues through advanced analytics, allowing organizations to target their interventions more effectively. Similarly, Artificial Intelligence (AI) contributes to the social economy by automating routine tasks and offering sophisticated solutions to complex social challenges. Another transformative digital tool is blockchain technology, which holds enormous potential to influence this kind of organization. Together, these technologies enable organizations to make informed decisions, enhance transparency, reduce costs, and drive innovation. At the end of this systematic literature review, we conclude by offering suggestions for further research.

Keywords: Digitalization, Social Economy, Nonprofit, Systematic Literature Review, Digital technologies.

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1. Introduction

A social economy organization, as distinct organization, wields considerable economic influence in society Salamon & Geller (2007). It emphasizes the critical importance of sustainability for a country's financial and social well-being and makes significant social contributions (Renshaw & Krishnaswamy, 2009). The term "Social Economy" was used to emphasize the necessity of ethical economic development, especially during periods of social and economic imbalance (Mook & Quarter 2006). The term was further explored in Cummings' 1890 article, "Social Economy at the Paris Exposition." After the Second World War, there was a significant shift towards the Social Economy, thanks to the support of the Marshall Plan and the resulting economic growth in Europe. The landscape of Social Economy Organizations (SEO) in Europe is quite diverse, including cooperatives, foundations, associations, mutual societies, and social enterprises that function like regular companies (Borzaga & Tortia, 2006). Definitions of the social economy often assume that sectors can interact (Quarter & Mook, 2018). The social economy encompasses a diverse range of organizations that prioritize social objectives and community well-being over profit maximization. It consists of voluntary, mutual societies, non-profit organizations, social enterprises, charities, and cooperative sectors, which are formally independent of the state. Their market activities serve to achieve social development goals that go beyond purely economic objectives. Therefore, the social economy should be seen as a distinct third sector (Moulaert & Ailenei, 2005).

The Social Economy Action Plan outlines several key initiatives to support the social economy (European Commission,2021[1]). 1. Developing social economy framework conditions. 2. Establishing a new EU Social Economy Gateway, which will offer a clear entry point for social economy stakeholders, relevant actors, and individuals seeking information on EU funding, policies, and initiatives. 3. Creating a new European Competence Centre for Social Innovation. Their focus is on social, cultural, and environmental goals rather than maximizing profits. These organizations are known for their dedication to social justice, democratic governance, and community well-being. They often reinvest any surplus back into their missions to address various societal challenges (Defourny & Nyssens, 2010).

From 2014 to 2020, the EU invested over €2.5 billion in the social economy, and plans for 2021-2027 aim to further increase this support. Through

[1] European Commission in the Social Economy Action Planhttps://ec.europa.eu/social/main.jsp?catId=1537&langId=en

the InvestEU multiplier effect and additional funding for social impact and innovation, the European Commission expects even greater investment. Complementary EU and national funding will also play a role. Building on past achievements is essential to tackle demographic, environmental, and digital challenges, especially post-COVID-19. This plan outlines EU support for the social economy through 2030, aligned with the European Pillar of Social Rights Action Plan (European Commission, 2020).

The third sector, which is a vital part of the social economy, consists of a wide range of independent organizations. These organizations are separate from the government and for nonprofit businesses (Birchall, 2004). The third sector addresses gaps left by the public and private sectors, prioritizing social goals over profit to tackle issues such as poverty, inequality, and environmental degradation in innovative and community-focused ways. Operating on principles of solidarity and cooperation, third-sector organizations strengthen community bonds, enhance social capital, and contribute to the social fabric and economic stability of societies (Defourny et al., 2010; Berardi et al., 2021).

Nonprofit organizations are another crucial component of the social economy. These entities operate for social, cultural, educational, or environmental purposes without distributing profits to owners or shareholders. They focus on addressing various societal issues such as poverty, health, education, and social services (Salamon, 1999). The use of digitalization tools must be guided by core values such as social impact, participatory governance, and ethical corporate practices. By facilitating mass personalization and the selection of sustainable inputs to satisfy client wants, technologies like artificial intelligence and big data have the potential to revolutionize traditional business structures. Digital tools are essential for improving connectedness and shared possibilities in the social economy by promoting networking and collaboration that transcend physical boundaries (Galindo-Martin et al., 2019).

This technological integration can lead to higher productivity and sustainability for both local and global economies and enterprises (Wilts et al., 2021). To fully understand technology's impact, it is imperative to consider cultural, organizational, and societal contexts, as Urbach and Röglinger emphasized in their 2018 research.

The social economy framework first prioritizes social objectives, and second, it acknowledges that different organizational models are suited to different needs and circumstances. Third, it recognizes that many social economy organizations operate across different sectors, blending public and private elements as needed. Finally, it is crucial for societies to confidently

embrace a diverse range of organizational forms to cater to the needs of their citizens effectively and flexibly (Mook et al., 2015).

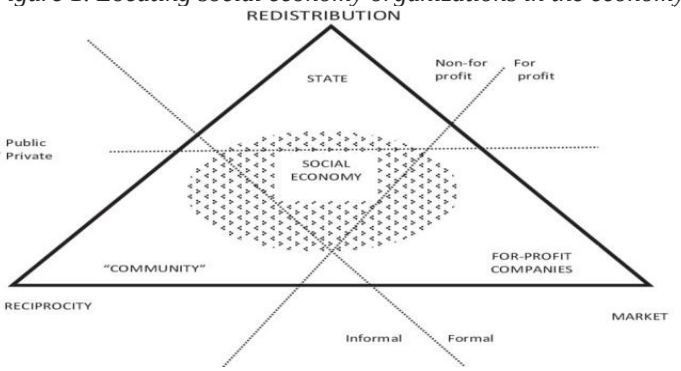
From a social economy perspective, the current era of digital platforms and advanced technology is bringing about significant changes. The rapid and widespread digital transformation is revolutionizing how we create, design, and utilize products and services, leading to significant changes in the socioeconomic landscape. Mounting pressure is on national governments and the EU to develop innovative policies that effectively support this transformation (Gagliardi et al., 2020).

According to Wilts et al. (2021), digital technologies, including artificial intelligence, encompass models and systems that carry out tasks related to human intelligence, such as reasoning and learning. These technologies can provide crucial support to organizations in applying social and economic principles. The process of digitalization is intended to enhance various areas of society, such as healthcare, education, job opportunities, entrepreneurship, agriculture, transportation, environmental protection, and natural resource management. This can lead to substantial benefits by boosting economic growth through improved efficiency, productivity, and competitiveness achieved with the use of digital technologies. It is crucial to modernize different economic sectors and activities while also gaining new competitive strengths and characteristics (Okhrimenko et al., 2019).

To proceed, social economy organizations to thrive, they need access to two key resources. Firstly, they require spaces to experiment and develop digital technologies, platforms, and advanced technological applications that cater specifically to their needs. Secondly, they need reliable pathways to income generation, which is essential for their smooth operation. It is worth noting that social economy organizations operate under unique circumstances that require careful consideration (Gagliardi et al., 2021).

According to Defourny and Nyssens (2012), social economy organizations have a unique role in the economy as they adhere to fundamental principles such as the market's basic rights, fair distribution of goods and services, and voluntary economic activity. These organizations operate in the third sector, bridging the gap in the economy where traditional businesses are unprofitable and social entities are unable to operate effectively (Fig. 1).

Figure 1. Locating social economy organizations in the economy.



Source: *(Defourny & Nyssens, 2012, p.11)*

Incorporating technologies into the social economy is essential for progress. These technologies offer easy access to public services and create more job opportunities, driving economic growth. Ultimately, this leads to an overall improvement in the social welfare of individuals (Dong & Yang, 2019). According to Chauhan et al. (2022), modern technologies significantly impact the social economy. They improve operations, increase efficiency, reduce transaction costs, create job opportunities, and promote economic growth. Digitalization plays a vital role in providing essential public services, encouraging citizen engagement, and fostering economic growth. However, integrating Social Economy organizations with digitalization technologies like big data, blockchain, and artificial intelligence poses challenges that require attention from researchers, practitioners, and policymakers. Successfully addressing these challenges is crucial for a smooth integration of technology in the social economy. this paper aims to explore the current research literature on digitalization in the social economy. To guide our discussion, we have formulated the following research questions.

RQ1: Do digital technologies like Big Data, Blockchain, and Artificial Intelligence relate to the Social Economy?

RQ2: What research has been conducted on the adoption of digitalization in social economy organizations?

RQ3: How can digitalization's factors and capabilities contribute to enhancing the social economy?

The contribution of this study includes research first of its kind to explore the impact of digital technologies on the social economy. Its main objective is to understand digitalization and its potential consequences comprehensively. The paper can be a useful resource for new researchers in related

fields and offer more profound insights for professionals in profit organizations and the social economy. The findings of this study are also intended to be beneficial to academics and professionals interested in this area. By identifying and analyzing the most relevant papers, this review lays a strong foundation for future research and highlights some research directions that can help technology adopters better understand digitalization.

We will start by outlining the background information and references to primary sources that explain the reasons behind this shift. Second, it describes the methodology adopted for this study; the section presents the method used for this research, which is the (SLR). The third section reports the findings, which are further divided into Descriptive analysis, Discussion, and Integration. We then move on to discussing the results. Finally, in section five, we conclude the paper by highlighting key findings and providing insightful recommendations for future research in this area. By identifying areas of potential research and highlighting gaps in existing knowledge, we aim to empower other researchers to continue exploring the effect of digital technologies on the social economy.

2. Review Methodology

Systematic reviews are valuable research tools because they follow rigorous procedures to identify and analyze relevant data (Snyder, 2019). We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher ,2009) approach to conduct an extensive assessment and gather relevant papers. This approach ensures that the review's findings and conclusions are reliable and unbiased, making them useful resources for decision-making (Oliveira & Lumineau, 2019). The PRISMA method has three essential stages: search strategy, screening criteria, and data extraction and synthesis. PRISMA (Preferred Reporting Items for Systematic Review and Meta-analysis) protocol (Shamseer et al., 2015), which is a widely accepted guideline for conducting systematic reviews. See figure 2. We conducted our search on Scopus, a comprehensive database that covers a wide range of relevant literature and has been used in several previous studies (Boon et al., 2019; Gusenbauer & Haddaway, 2020; Mehraein et al., 2023). This research utilizes a combination of literature review and NVivo-supported thematic template analysis as a methodology, as outlined by King and Brooks (2017). We created a template using NVivo software to organize the emerging data according to different levels of communication. This approach enabled us to systematically categorize and organize the themes

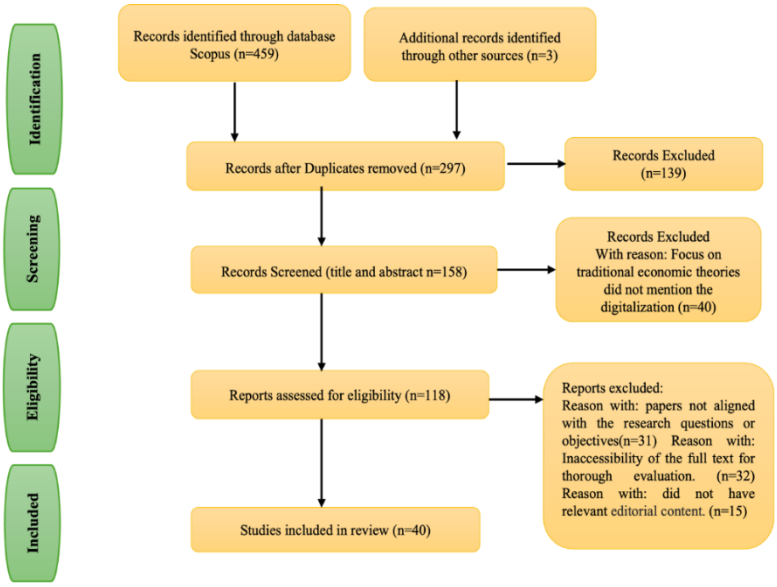
identified in the studies, serving as the foundation for our coding procedure. This iterative process enabled us to create a final template that identified emerging themes and their interrelated patterns. We began our review by carefully selecting relevant keywords and search terms based on our objective and research questions. We also employed a snowball technique, carefully analyzing previous studies and foundational work to ensure a comprehensive understanding of the topic (Defourny & Develtere, 2009; Mehraein et al., 2023).to formulate our search queries, we utilized Boolean logic by integrating 'OR' and 'AND' connectors and extensively searched in keywords. For this study, the following initial Scopus search string was utilized: (TITLE-ABS-KEY (digital* OR "Digital Technology" OR "Artificial Intelligence" OR "Machine learning" OR "WebIntelligence" OR "Bigdata" OR blockchain OR "Internet of things" OR cybersecurity OR ict OR "Artificial neural network" OR "Cloud computing") AND TITLE-ABS-KEY ("Social Economy" OR nonprofit OR "Non-profit" OR "no profit" OR "non-profit")) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "ECON")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (LANGUAGE , "English"))

In this process, we initially collected 459 documents on Scopus and identified three additional articles from other sources. First, We narrowed the scope of the review to a select number of articles to enable a thorough and in-depth analysis. We considered filtering the language of published articles to English for academic purposes. We limited the time frame of our search to articles published between 2014 and the end of 2022. We also focused on specific subject areas, specifically social sciences, business management, accounting, economics, econometrics, and finance. After removing duplicate entries, we carefully reviewed the titles, abstracts, and keywords. The screening process continued with the review of all 297 papers' titles and abstracts based on inclusion and exclusion criteria to identify relevant studies that provided insight into the impact of digitalization tools on the social economy, and we then identified 158 papers."

We had valid reasons for excluding certain records and full-text articles in this section. Firstly, some papers were excluded because they focused on traditional economic theories without addressing digitalization tools. Additionally, some papers were not directly relevant to our research objectives and questions, falling outside the scope of our review. We also excluded editorial content as they did not meet the prefined inclusion criteria. Another

factor was the unavailability of full-text articles; some papers lacked access to the complete text, and the provided abstracts or summaries were insufficient for a comprehensive evaluation. To maintain the integrity of our analysis, papers without accessible full texts were excluded. We searched the retrieved records by keywords, followed by a full-text evaluation to determine their relevance. There was strong agreement among authors (87%), and any disagreements were subsequently discussed and resolved. Ultimately, 40 articles were selected for the final analysis. Figure 2 provides details of our search process.

Figure 2. PRISMA Flow Diagram for systematic literature review (Depicts the flow of information through the different phases of a systematic review. It maps out the number of records identified, included, and excluded and the reasons for exclusions).



Source: Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ 2021, 372, n71.

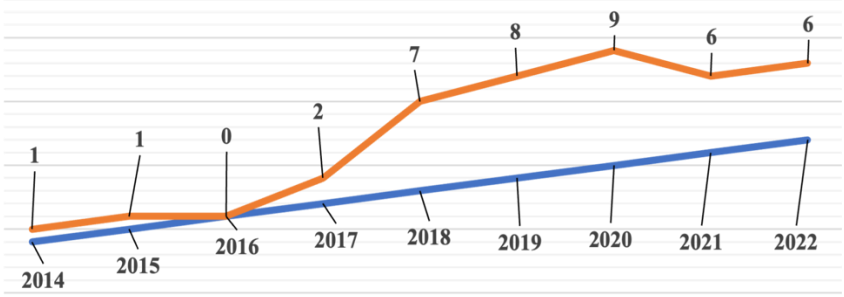
3. Results

3.1. Descriptive analysis

Publications by year

We specifically chose the period from 2014 to 2022 because prior to 2014, there was a lack of research on the impact of digital technologies on the social economy. Limiting the review to recent years ensures the inclusion of the most up-to-date data, theories, and findings. This period provides a sufficient volume of literature to perform a robust analysis while remaining manageable in scope. It also ensures that the findings are relevant to current technological and socio-economic contexts. Fig. 3 shows that in the number of publications related to our selected topic during the review period. The growth of studies on this topic, especially between 2014 and 2017, is significant. After 2014, there was a significant increase in the number of publications. Over fifteen papers were published during the pandemic in 2020 and 2021. The rapid increase in the number of articles is to be expected as we are concentrating on an emerging research stream. During the COVID-19 pandemic, social economy organizations played a pivotal role in providing vital services and bolstering community resilience. This crisis drove the adoption of digital technologies as these organizations shifted to remote work and digital service delivery, sparking heightened interest and usage of digital tools within the social economy.

Figure 3. The number of papers published between 2014 and 2022.

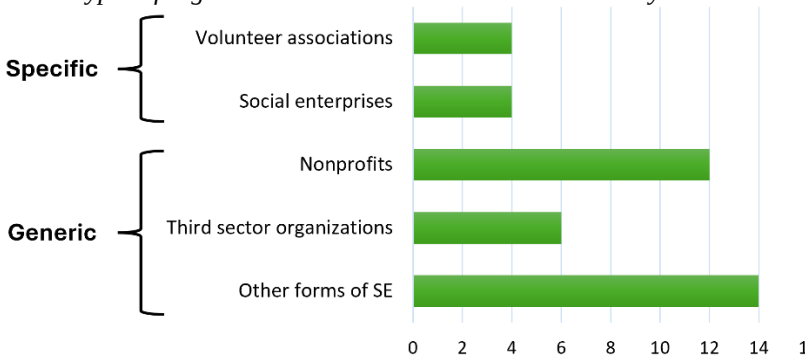


Publication by kind of organizations

Our review focuses on studies on specific social economy organizations, like voluntary associations and social enterprises, as well as those covering the generic sector, including non-profits and third-sector entities. These studies offer detailed insights into the use of digital technology in social economy

organizations. This review examined common trends and challenges faced by nonprofits, third-sector organizations, and the wider social economy as they adopt digital technologies. Among the various types of organizations examined, other forms of social economy were the focus of the most frequent studies, with 14 papers, while nonprofit organizations ranked second with 12 papers. Third-sector entities were the focus of six papers, and four papers examined both social enterprises and volunteer organizations, as shown in (Fig. 4).

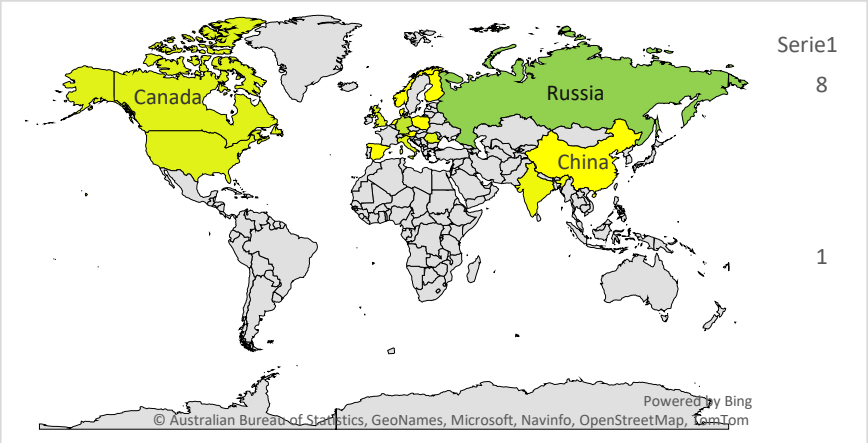
Figure 4. The types of organizations examined in the social economy.



Geography map of scientific production

The map illustrated in Fig.5 displays the geographic areas that have conducted research on digitalization and the social economy. The yellow areas indicate a low number of countries studied, while the darker green areas indicate a high number. Studies on digitalization in the social economy show that Russia has the highest number of articles among other European countries but still lags behind developed European countries. It has been observed that Russia's production of products with high R&D intensity is relatively low, as evident from the growth rate in its High-Technology Exports. However, the country ranks high in the National Cyber Security ranking. In terms of research publications, the majority of articles have been published by European authors, with Russia having the highest number of publications at 8 (21%), followed by Germany with 5 (12.5%), and Italy, Romania, and the UK with 3 (7.5%) each. (Table 1) Similar studies have also been conducted by authors from the USA and Canada. refer to (Fig. 5) for a visual representation of the papers by geographic region. (See the percentage geographic regions table Appendix: www.sidrea.it/exploring-impact-digitalization)

Figure. 5. Geographic distribution by country.

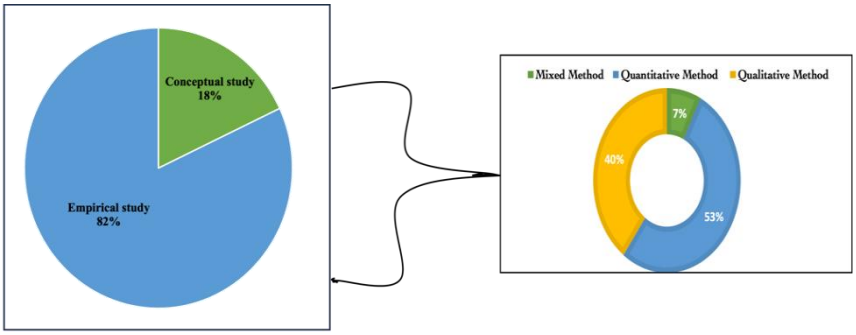


Publication by research methods

To understand how we classify papers; we examined the ratio of conceptual and empirical papers. Empirical papers concentrate on digitalization activities and processes that can be observed or measured using both qualitative and quantitative methods. On the other hand, conceptual papers offer valuable insights, theories, frameworks, and criticisms on emerging technologies like AI and blockchain in the social economy. They provide a foundation for new ideas and offer a comprehensive understanding of the subject matter.

However, researchers face challenges in collecting and analysing real-world data due to debates on definitions. The analysis indicates that research on digitalization's impact on the social economy is a recent and rapidly growing trend. Such studies are mostly published in a limited number of journals on economics and marketing. Out of the 40 academic articles selected, 9 (18%) were conceptual, and 41 (82%) were empirical studies, as shown in Figure 5. Among the 41 empirical studies, 21 (53%) used quantitative research methods, 16 (40%) used qualitative methods, and 3 (7%) used mixed research methods. In other words, the majority of research conducted in this field is quantitative, with surveys being the most commonly used research method. The relatively high proportion of conceptual articles indicates that the field is still in its early stages of development. After conducting empirical studies, researchers aim to identify and address significant challenges within different contexts of the social economy. Additionally, they analyse the digital tools used to enhance the social economy. This trend is supported by the existing literature on social economy and digitalization, as qualitative analysis has shown.

Figure 6. Overview of research methods used.



Publication by digitalization keywords

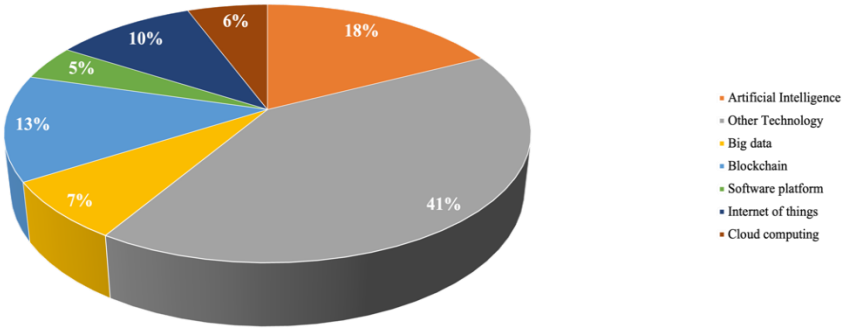
Digitalization can bring significant benefits to nonprofits and the social economy. It can improve efficiency by simplifying work processes, streamlining communication, and facilitating collaboration. Moreover, digitalization can help reduce labor costs by automating tasks, personalizing donations, increasing transparency, raising awareness, virtualizing marketing, and decentralizing services (Herbert, 2017).

Social economy organizations must utilize digital platforms and advanced technologies to boost their performance and decision-making capabilities. Social economy organizations must harness the power of digital platforms and advanced technologies to maximize their performance and decision-making capabilities. Our study shows that digital tools are essential, with other technologies being the most frequently utilized (at 41%), followed by artificial intelligence (at 18%). By utilizing these state-of-the-art tools, social enterprises can confidently drive their success and make a significant impact on the social economy. (Fig 7).

AI's economic impact has been both widely recognized and undeniable. With its unparalleled capacity to process vast amounts of data, AI enhances productivity, drives growth, streamlines processes, and supports more informed decision-making. The adoption of AI holds tremendous potential to accelerate economic growth and productivity, making it a game-changer for social economy organizations. As intelligent companies increasingly leverage digital technologies like artificial intelligence, big data, and blockchain, a new era of innovation and exploration has begun. The advancements in science and technology have disrupted conventional institutions, leading to globalization and digital transformation, thus paving the way for a new paradigm of human interaction. The second digitalization tool is the popular

Blockchain technology can bring enormous positive development opportunities. Blockchain technology will significantly affect the SEO in NPO. this technology with 9 (13%). In general, Blockchain shows potential as a tool that can greatly influence the social economy and, respectively, the Internet of Things 7 (10%), the most frequently analyzed issue. But we also could find other essential topics, such as Cloud Computing 4 (6%), Software Platforms 3(5%), and Big Data 5 (7%).

Figure 7. Digital technologies applied in papers.

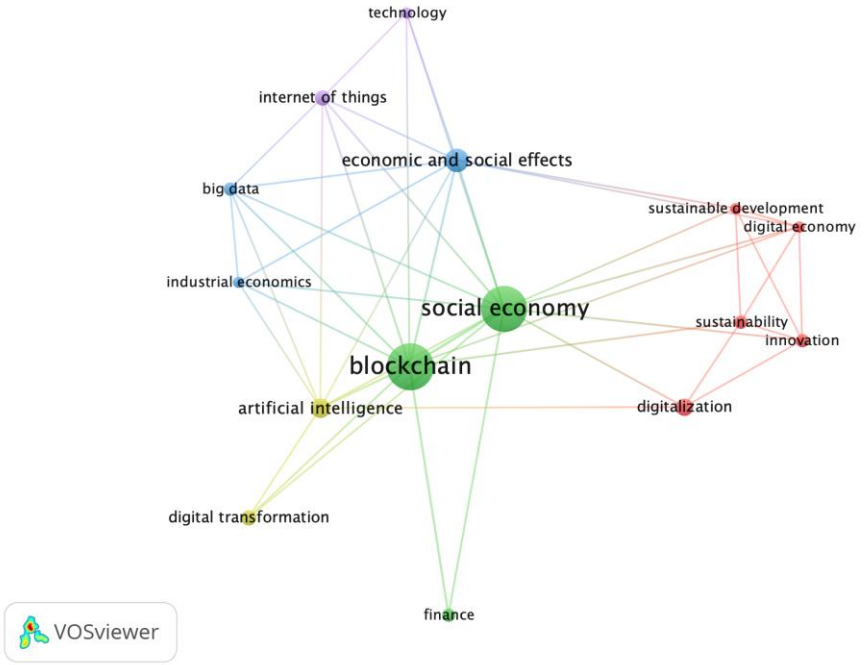


Clustering and relation diagram of keyword frequency

The relation diagram in VOSviewer illustrates the strength and directionality of relationships between keywords based on their co-occurrence frequencies. Nodes represent keywords, and the thickness and color of the lines connecting them indicate the strength and nature of their associations. A thicker line between two keywords signifies a stronger relationship, suggesting frequent co-occurrence in the same documents. This diagram visually maps out the interconnections between different concepts and themes in the literature, providing insights into which keywords are central or peripheral within the research domain. The keyword co-occurrence in our analysis, as shown below, depicts four connected clusters, with social economy being the most central topic, followed by blockchain. Diagram 1 shows a stronger relationship between social economy and blockchain and then the artificial intelligence keyword. The integration of AI and big data into the social economy represents a significant shift towards more data-driven and technologically advanced approaches, highlighting the increasing importance of digital transformation in driving economic and social innovation. Overall, both

clustering and relation diagrams in VOSviewer enhance the visualization and exploration of keyword relationships, offering valuable tools for bibliometric analysis and literature mapping in research.

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



The studies are organized by citation count across multiple journals

Table 2 presents a detailed overview of the most influential studies on digitalization and the social economy, ranked by citation count. The analysis of these studies reveals several key findings regarding the state of research in this emerging field: (See the table Appendix: www.sidrea.it/exploring-impact-digitalization) The most cited study, "The Impact of Digitalization on Business Models" by Bouwman et al. (2018), with 539 citations, underscores the importance of understanding how digital technologies reshape business models across various sectors, including the social economy. This article's prominence suggests a strong scholarly interest in how organizations can adapt their strategies to leverage digitalization effectively. Similarly,

"Introduction to Digitalization Cases" by Urbach and Röglinger (2018), with 226 citations, highlights the transformative impact of digitalization on organizational strategies and operations, further supporting the critical role of digitalization in redefining traditional business models. The study "A Framework to Make Charity Collection Transparent and Auditable Using Blockchain Technology" by Farooq et al. (2022), with 107 citations, illustrates a growing recognition of blockchain's potential to enhance transparency and trust within the social economy. The significant number of citations indicates that blockchain technology is considered a vital tool for addressing accountability issues in charitable activities and nonprofit management. Multiple studies, such as "Challenges of Digital Transformation: The Case of the Non-Profit Sector" by Nahrkhalaji et al. (2018) and "Challenges of the Digital Transformation: Comparing nonprofit and Industry Organizations" by Vogelsang et al., (2021), highlight the specific barriers nonprofit organizations face in digital adoption. These studies, with 94 and 18 citations respectively, reveal key challenges like limited resources, resistance to change, and lack of digital skills, emphasizing the need for targeted strategies to support nonprofits in their digital transformation journeys. Several studies aim to develop strategic frameworks to assist organizations in navigating digital transformation. For example, "Fields of Action to Advance the Digital Transformation of NPOs" by Brink et al. (2020), with 17 citations, offers a structured approach to digital transformation for nonprofit organizations (NPOs). This focus on frameworks suggests a need for practical guidance on how these organizations can effectively implement digital strategies. Studies like "Digitalization, Social Entrepreneurship, and National Well-Being" by Torres and Augusto (2020) (76 citations) and "Global Trends in the Social Economy Development" by Stukalo and Simakhova (2021) (17 citations) examine the broader implications of digitalization on social enterprises and societal well-being. These articles explore how digital tools can drive social innovation, improve quality of life, and support sustainable development. the article "New Technologies and Digitization: Opportunities and Challenges for the Social Economy and Social Enterprises" by Gagliardi et al. (2020) (15 citations) and "Social and Economic Background of Digital Economy: Conditions for Transition" by Afonasova et al. (2020) (27 citations) delve into the specificities of how social economy organizations can harness digital tools, highlighting both opportunities and challenges.

4. Discussion and Integration

In this section, we are addressing three questions that need to be investigated further.

RQ1: Do digital technologies like Big Data, Blockchain, and Artificial Intelligence relate to the Social Economy?

Blockchain technology significantly enhances transparency and accountability within the social economy. Its decentralized ledger system enables the creation of secure, transparent, and tamper-proof transaction records, fostering unwavering trust among stakeholders (Zheng et al., 2017; Tsolakis et al., 2023). Digital technologies such as Big Data, Blockchain, and Artificial Intelligence (AI) have a profound impact on the social economy by significantly improving efficiency, transparency, and innovation. Big Data analytics empower social economy organizations to gain deeper insights into social issues, enabling them to target interventions more effectively. Through the analysis of extensive data, these organizations can pinpoint patterns, forecast outcomes, and allocate resources more efficiently, ultimately leading to the implementation of more impactful social programs. For instance, Big Data can track health trends in underserved communities, optimize supply chains for food banks, and measure the effectiveness of educational programs (Kitchin, 2014; Mougayar, 2016; Bridge et al., 2020).

According to a study by Zheng et al., (2017), blockchain technology offers substantial benefits for the social economy by ensuring transparency and accountability in transactions. This is particularly vital for social enterprises and nonprofits, which rely heavily on trust and donor confidence. Blockchain enhances the traceability of donations, ensuring that funds are utilized appropriately, thereby increasing stakeholder trust. Artificial Intelligence (AI) theoretically contributes to the social economy by offering advanced tools for automating routine tasks and providing sophisticated solutions to social problems. AI's predictive analytics and machine learning capabilities can improve decision-making processes, enabling social economy organizations to anticipate needs and respond proactively. This theoretical framework of enhanced responsiveness and adaptability is crucial for addressing dynamic social challenges. Additionally, AI's potential to personalize services, such as tailored educational programs or healthcare interventions, aligns with the theoretical concept of individualized care and support, promoting inclusivity and equity within the social economy (Vinuesa et al., 2020; Holzmann & Gregori 2023).

From a social impact perspective, these technologies have the potential to democratize access to information and resources, empower marginalized

communities, and promote inclusivity. Big Data analytics can bring attention to disparities and direct resources to underserved populations, ensuring a fair distribution of social services. Blockchain can empower individuals by granting them control over their data and transactions, reducing reliance on intermediaries and improving financial inclusion. AI can offer customized solutions to social issues, such as tailored educational programs for disadvantaged students or optimized healthcare services for remote areas (Mittelstadt et al., 2016).

Social-purpose organizations can increase revenue and social impact by aligning trade and social activities through digitization, leading to greater financial independence and innovative organizational models (Alshawaaf & Lee, 2021). Likewise, digitization is crucial for economic growth and social progress in developed countries. Credit institutions and nonprofit organizations face sustainability and security challenges in integrating digital technology into their operations. New measures are necessary to ensure economic security in these sectors (Borkova et al., 2020; Sept 2020**).**

According to the survey conducted by ISNET (2020)[2] titled "Exploring the Impact of Digital Technologies on Social Economy Organizations," and published by the International Social Economy Network, definitively presents the perspectives of 500 Italian social enterprises. This includes 400 social cooperatives and 100 social enterprise ex-leges, providing clear insights into the potential impact of specific digital technologies on their organizations. The survey unequivocally reveals that social enterprises are increasingly embracing digital technologies due to their business-oriented characteristics, which undeniably contribute to economic sustainability by optimizing their business practices. (See the Appendix for further discussion: www.sidrea.it/exploring-impact-digitalization).

RQ2: What research has been conducted on the adoption of digitalization in social economy organizations?

According to Gagliardi et al. (2020), evaluating the current state of digital transformation in the social economy requires a focused assessment of skills, technologies, and practices. This evaluation helps pinpoint educational and learning needs, while policies should prioritize skill development, education, and learning objectives. Enhancing the social economy's capacity, skills, and competencies across all levels is essential for navigating an increasingly

[2]Definition International Social Economy Network The survey conducted by ISNET (2020) https://op.europa.eu/en/publication-detail/-/publication/2c17d0c2-3384-11eb-b27b-01aa75ed71a1/language-en

digital landscape effectively. A recent study by Yli-Viitala et al. (2020) focused on implementing and utilizing digitalization in the US manufacturing industry. Despite the lack of strong national policy initiatives reflective of a market-driven economy, Culture, and policy support digitalization in manufacturing. Digitalization has permanently affected the social economy, triggered a management revolution and decentralized financial technologies. According to Kumaret al. (2022) study, expanding the digital community can create a more inclusive European economy that tackles 21st-century challenges with advanced technologies and platforms. a combination of AI and blockchain technology is a global trend with significant potential in the business and economics sectors. Research indicates that social economy organizations face considerable challenges in adopting digital technologies, such as limited resources, inadequate expertise, and resistance to change. Overcoming these obstacles requires enhancing digital literacy, fostering a supportive organizational culture, and ensuring strong leadership commitment. Furthermore, the findings highlight the critical need to create an environment conducive to digital transformation, where dedicated leadership can effectively drive this transition (Vogelsang et al., 2021). (See the Appendix for further discussion: www.sidrea.it/exploring-impact-digitalization).

RQ3: How can digitalization's factors and capabilities contribute to enhancing the social economy?

Digital platforms and blockchains impact work, goods and services, money, finance, and governance. They offer incredible possibilities, and it is recommended that their impacts be managed actively to ensure they align with people-centered development and sustainability (Jones & Wynn, 2021; Dicuonzo et al., 2021). Integrating digital technology into nonprofit organizations and other social economy entities is a key strategy for bridging the gap between technological advancement and social welfare. Achieving this goal relies heavily on comprehensive management education at all levels (Gagliardi et al., 2020; Spelhaug & Woodman, 2017).

The use of digital platforms and advanced technologies can have a positive impact on the social economy by automating processes, streamlining operations, and creating innovative social services. Collaborating with stakeholders in environments like social clusters and creative spaces helps modernize social economy organizations. Nonprofit organizations must have a well-defined digital strategy, as emphasized in the 2018 Italia Nonprofit Report titled "Third Sector and Digital Transformation." Embracing digital transformation can break down the boundaries of nations, promote

globalization, and bridge the gap between science, education, production, and the market (GROW, 2020; Kosa; Dhliwayo 2024; Berardi et al., 2023).

Digital technology has brought about significant changes in the world, and one of the most crucial technologies is big data. It facilitates the acquisition of essential information and effective decision-making by accumulating datasets. Numerous studies have examined the impact of digitalization on both for profit and nonprofit organizations. The phenomenon of big data is commonly identified as the proliferation of data generated using digital technologies, which is an information asset characterized by a high volume, velocity, and variety. It requires specific technology and analytical methods for its transformation into value (De Mauro et al., 2016). European industry has a strong foothold in both advanced digital technologies and traditional sectors. This puts them in a good position to capitalize on opportunities presented by technologies such as the Internet of Things, big data, advanced manufacturing, robotics, 3D printing, blockchain, and artificial intelligence (Karnitis and Karnitis, 2017). Blockchain, initially popularized by the rise of cryptocurrencies, has gained significant recognition as a powerful technological tool. Its potential extends far beyond financial and economic sectors, proving valuable across a wide range of applications. (Ghilal & Nach, 2019). (See the Appendix for further discussion: www.sidrea.it/exploring-impact-digitalization).

5. Conclusion

5.1. Value/Originality

This study emphasizes the importance of digitization in the social economy by demonstrating how it may promote sustainability objectives, foster inclusive growth, and improve social cohesion. Our research shows that social economy organizations need digital tools to function effectively, increase their influence, and fulfill their purposes. These companies can make better decisions, increase transparency, cut expenses, effectively engage stakeholders, and promote innovation with the use of technologies like artificial intelligence (AI), blockchain, and cloud computing. As a result, they can adapt more quickly to changing environments and achieve their objectives with greater confidence and sustainability. our study is the first of its kind to explore the impact of digital technologies on the social economy. Its primary objective is to understand digitalization and its potential effects comprehensively. To investigate the possible uses of digital technology in

the social economy, we carried out a thorough examination of the literature. We filled in the gaps and contradictions in the literature by reviewing pertinent publications, providing a more thorough grasp of the subject. Our assessment highlights important research gaps, which constitute this study's main contribution. According to the findings, digitization is a key factor in economic advancement since it increases productivity, reduces transaction costs, and opens up access to global markets. Developing countries can leverage digitalization to narrow the gap with their more developed counterparts. However, integrating these technologies poses ethical and social challenges. Therefore, it is crucial to implement digital technologies in ways that align with the principles of social justice and inclusivity. Nonprofit organizations can experience direct positive impacts by aligning their social missions with well-planned, long-term strategies and by making use of customized digital platforms and advanced technologies. This research presents valuable opportunities for further studies. This field holds promise in shaping a more equitable and digitally empowered future for social economy organizations through interdisciplinary collaboration and research on how digital transformation influences organizational dynamics, community resilience, and social capital formation.

5.2. Limitations of the research

The current literature on digitalization in the social economy faces several notable limitations. The rapid evolution of digital technologies poses a challenge, as findings can quickly become outdated, requiring ongoing updates to maintain relevance. Language bias is another issue, as many non-English publications are excluded, potentially missing valuable insights from diverse regions. Shortcomings in access to full-text articles and proprietary data can limit the comprehensiveness of reviews. The diversity in the size, scope, and resources of social economy organizations also makes it difficult to generalize results across different contexts. Addressing these limitations is crucial for advancing the field effectively. The literature review's findings may not be fully generalizable across all social economy organizations due to the diversity in organizational structures, sizes, missions, and geographic locations.

5.3. Future Research

Future research in the social economy and digitalization should prioritize longitudinal studies to track the long-term impacts of digital transformation on various organizations within the sector. This approach can reveal

sustainability trends, the evolution of digital practices, and the overall effectiveness of these technologies in enhancing organizational efficiency and social impact. Additionally, comparative studies across different types of social economy organizations, such as NGOs, cooperatives, and social enterprises, can help identify sector-specific challenges and best practices, providing tailored strategies for digital integration. Another critical area for future research is how digital technologies can enhance the efficiency, reach, and effectiveness of social services, as well as their ability to foster social innovation. Researchers should investigate the specific ways in which digital tools contribute to improved service delivery, greater community engagement, and more inclusive economic growth. It is crucial to assess the broader societal implications of digitalization, such as changes in social capital, community cohesion, and the empowerment of marginalized groups. By understanding these impacts, future research can inform the development of digital strategies that maximize positive social outcomes. We have some research questions as suggestions for future studies. These questions aim to address various dimensions of digitalization's impact on the social economy, providing a roadmap for future research. First, how do various digital technologies (such as AI, blockchain, IoT, and others) uniquely influence social economy organizations' operational efficiency and effectiveness? A case study approach across different social economy companies could be used to explore this question in research methodology. Second, what are the barriers to digitalization for social economy organizations, and how can these be effectively mitigated? Future research could investigate the common obstacles faced by social economy organizations in adopting digital tools and strategies to overcome them. (See the Appendix for further discussion: www.sidrea.it/exploring-impact-digitalization).

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