This paper aims to understand the connections between digitalization, value co-creation and social entrepreneurship. The article also aims to identify future research areas related to these connections. The authors conduct a systematic literature review of 61 journal articles and synthesize their findings. First, they reveal literature gaps: Regarding the first research gap of the connection, their research has identified themes connecting the three streams of literature (digitalization, value co-creation, and social entrepreneurship) that need improvement. Second gap was a lack of COVID-19 focus. Finally, they provide theoretical contributions and recommend directions for future research on digitalization, value co-creation and social entrepreneurship.

Keywords: digitalization, digital transformation, value co-creation, social entrepreneurship, ecological entrepreneurship

A tanulmány célja annak a szakirodalomnak az áttekintése, amely a digitalizáció, a közös értékteremtés és a társadalmi vállalkozások metszetében helyezkedik el, rávilágítva a területek kapcsolódására. A szerzők szisztematikus irodalomáttekintést végeztek, melynek során 61 cikket tekintettek át összegezve, szintetizálva azok főbb eredményeit. Az áttekintés során azonosították a kutatási hégzokat, illetve a három szakirodalmi irányzat (digitalizáció, a közös értékteremtés és a társadalmi vállalkozások) közötti összefüggések további kutatást igénylő területeit, különös tekintettel a COVID-19 fókusz hiányára. Végezetül, elméleti következtetéseket fogalmaztak meg, illetve a digitalizáció, a közös értékteremtés és a társadalmi vállalkozások kutatásaival kapcsolatosan javaslatokat tesznek a jövőbeli kutatási irányokra.

Kulcsszavak: digitalizáció, digitális transzformáció, közös értékteremtés, társadalmi vállalkozások, ökológiai vállalkozások

Finanszírozás/Funding:
The authors did not receive any grant or institutional support in relation with the preparation of the study.

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The article was received: 16. 05. 2023, revised: 10. 07. 2023 and 15. 07. 2023, accepted: 15. 07. 2023.
are required to see the results of digital transformation and its connection with social businesses more obviously. Furthermore, other than digitalization, social entrepreneurship also can use the process of value co-creation (Lin et al., 2019), which is the joint creation of value by the enterprise and the customers, letting them co-construct service experience to adjust their needs (Prahalad & Ramaswamy, 2004).

There is usually synergy between the three, which increases the positive impact of each: Digitalization makes communication easier, help social entrepreneurs co-create value with diverse stakeholders; secondly, connection holds potential for social change: Technologies help social entrepreneurs for delivering value to beneficiaries, while also enabling them to make new solutions, and adapt to different changing needs (Murdock & Lamb, 2009; Srivastava & Shaines, 2015; Wilson et al., 2017; de Bernardi et al., 2019; Goyal et al., 2021; Wan & Liu, 2021; Aisaiti et al., 2021; Loukopoulos, & Papadimitriou, 2022; Chandra, 2022). Last, but not least, 3 concepts are all closely aligned with the United Nations’ Sustainable Development Goals. Digitalization can accelerate progress towards achieving the SDGs by enabling access to education, healthcare, financial services, and other necessities; Value co-creation fosters collaboration and partnerships, which are essential for addressing complicated world problems; Social entrepreneurship aims to create positive social and environmental impact through innovative and sustainable business models (Lin et al., 2019; Ratten, 2022; Ceesay, Rossignoli, & Mahto, 2022).

That is why this study’s aim is to conceptualize digitalization and value co-creation in the context of social entrepreneurship. In this research, social entrepreneurship, digitalization and value co-creation – three compatible streams of literature – are connected with each other. Resonating with the research objective, this study tries to answer the following research question: What underlying mechanisms tie digitalization, value co-creation and social entrepreneurship?

The methodology that we applied is a systematic literature review focusing on peer-reviewed international articles regarding social entrepreneurship, digitalization and value co-creation. The review process had three phases and followed the well-established guidelines of systematic literature reviews (Tranfield et al., 2003). To explore the literature, the research design is framed with 1) article identification, 2) selection of relevant articles, and 3) qualitative analysis of papers.

Methodology

Research design
We conducted a systematic literature review of the literature on social entrepreneurship, digitalization and value co-creation. The review process had three phases and followed the well-established guidelines of systematic literature reviews (Tranfield et al., 2003). To explore the content of the literature on digitalization and value co-creation in social entrepreneurship, the research design is framed as follows: Article identification, Selection of relevant articles, and Qualitative analysis of papers.

Article identification
To provide a sound background for this study, peer-reviewed articles published in international journals in English were focused on. This is standard practice since these sources are accepted as ‘certified knowledge’ and strengthen the findings’ reliability (Cuccurullo et al., 2013; Fernandez-Alles & RamosRodríguez 2009; Rashman et al., 2009; Sarto et al., 2014; Torchia et al., 2013). The initial stage aimed to identify related journals and potentially related articles in databases such as Scopus and Web of Science. To answer the key question of our literature review, we conducted systematic research for the strings “social entrepreneurship”, “digitalization” and “value co-creation”. We took notes of the technical aspects, such as a list of the keywords, query ID, and query string. We searched for synonyms or words that identify the same phenomenon. In the case of value co-creation, it was “value creation” OR “value co-creation” OR “VCC”. In the case of digital transformation, “digit*” was used. The asterisk symbol is a function that is used when the desire is to search for words with the same root, however different endings: “digit”, “digitalization”, “digital”, “digitalized”, “digital transformation”, “digitalizing”, and so on. We followed the same procedure with social entrepreneurship. “Social” AND “entrepreneur*” has been tried. Our search strategy included studies that contain any of these words in the title, abstract or anywhere in the main body of the study, tables, figures or appendices. These searches resulted in a total of 257 potentially relevant studies (Table 1).

Table 1

<table>
<thead>
<tr>
<th>Phase 1: Article Identification (n=257)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main domains of interest and the aim of systematic literature review:</td>
</tr>
<tr>
<td>Finding the gap between Digitalization, Value Co-Creation and Social Entrepreneurship</td>
</tr>
<tr>
<td>Search for potentially relevant papers (n=257) according to main domains of interest:</td>
</tr>
<tr>
<td>Period: No limitations (Data gathering ended in 2022)</td>
</tr>
<tr>
<td>Search String Keywords:</td>
</tr>
<tr>
<td>„social entrepreneurship“ AND „digitalization“</td>
</tr>
<tr>
<td>„social entrepreneurship“ AND „value co-creation“</td>
</tr>
<tr>
<td>„social entrepreneurship“ AND „digital transformation“</td>
</tr>
<tr>
<td>„digital“ AND „social enterprise“</td>
</tr>
<tr>
<td>„social entrepreneur*“ AND „value co-creation“</td>
</tr>
<tr>
<td>„social entrepreneur*“ AND „digit*“</td>
</tr>
<tr>
<td>„eco entrepreneurship“</td>
</tr>
<tr>
<td>Search Scope: Title, Abstract, Keywords</td>
</tr>
<tr>
<td>Databases: Scopus, Web of Science</td>
</tr>
</tbody>
</table>
Then, on the basis of key insights and main findings from the titles and the abstracts. Then, we discarded the duplicates and made the first screening by reading the titles and the abstracts. Then, we discarded the duplicates alongside with articles which were not in English. Book, book chapters, conference proceedings, forum papers, summit reports, and research proposals were discarded too. Additionally, we also discarded 5 journal articles with no free accessibility or not accessible in full version (only abstract).

In the end, there were 61 articles left.

### Analysis of papers

At the third stage, we developed a detailed scheme for relevant papers, by which we coded every relevant paper. This coding scheme was the data repository from which subsequent analysis emerged; hence, the content was directly linked to the formulated review question and the planned assessment of the incorporated studies. In the coding scheme, we recorded the theoretical positioning of the relevant papers, the methodological approach, including data type, country of origin, industry context, key informant whom data was collected from, sample size, method of analysis, key insights, or summary of the main findings.

### Findings

This section summarizes previous research and studies on the subject matter and presents existing gaps in the literature. After giving literature statistics, the first section shows generic findings regarding the connection between digitalization and social entrepreneurship; then, the second section investigates the connection between value co-creation and social entrepreneurship. Since there is a gap between these three streamlines of literature, the third section tries to synthesize available knowledge in the literature and proposes 2 theoretical frameworks for future research and a table for managerial applications of digitalization and value co-creation in the context of social entrepreneurship.

The literature statistics are summarized in Table 2. Asian studies represent 36%, Europeans 32.7%, and North Americans 4.9%, with a share of 1.6% both in Australia and South America, while 9.8% of the overall studies were originating from multiple continents. The rest did not specify the place of origin. There were several industries, including hospitality, health, education and retail, but most of the companies were also social or ecological enterprises, which is why we did not go into the deeper specific classification of industries, and it was not placed in Table 2. Most of the chosen studies – 59% to be exact, were from Q1 journals, while the rest, 41%, were from Q2 articles. When it comes to analytical methods of the studies, we can say that qualitative methods were in the lead with 65.5% and followed by quantitative ones with 31.1% and mixed studies applying both qualitative and quantitative methods with approximately 3.4%. Article distribution by sample size for quantitative and mixed studies were mostly 500 and over. The rest of the sample sizes of quantitative and mixed studies were either between 100-200 or 200-500, while the less frequent sample size was below 100.

Adjacent theories appeared in multiple articles by frequency were institutional theory, stakeholder theory, grounded theory, theory of bottom of pyramid (BOP), crisis theory, new institutional theory, organizational identity theory and social capital theory. The institutional theory most frequently appeared, and it was mentioned in 13% of chosen articles. It was followed by stakeholder theory, grounded theory, theory of bottom of pyramid (BOP), and they were common in accordingly 8.1%, 6.5%, and 4.9% of the chosen articles.
Table 2

<table>
<thead>
<tr>
<th>Literature statistics (n=61)</th>
</tr>
</thead>
</table>

### Article distribution by geographies

<table>
<thead>
<tr>
<th>Region</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>22</td>
</tr>
<tr>
<td>Europe</td>
<td>20</td>
</tr>
<tr>
<td>North America</td>
<td>3</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
</tr>
<tr>
<td>South America</td>
<td>1</td>
</tr>
<tr>
<td>Multiple</td>
<td>6</td>
</tr>
<tr>
<td>Not Defined</td>
<td>8</td>
</tr>
</tbody>
</table>

### Article distribution by journal ranking

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>36</td>
</tr>
<tr>
<td>Q2</td>
<td>25</td>
</tr>
</tbody>
</table>

### Analytical method

- Qualitative: 40
- Quantitative: 19
- Mixed: 2

### Article distribution by sample size

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 100</td>
<td>3</td>
</tr>
<tr>
<td>100-200</td>
<td>5</td>
</tr>
<tr>
<td>200-500</td>
<td>6</td>
</tr>
<tr>
<td>500 and over</td>
<td>7</td>
</tr>
</tbody>
</table>

### Adjacent theories appeared in multiple articles by frequency

- Institutional theory: 8
- Stakeholder theory: 5
- Grounded theory: 4
- Theory of bottom of pyramid (BOP): 3
- Crisis theory: 2
- New Institutional Theory: 2
- Organizational identity theory: 2
- Social capital theory: 2

Search words: Digitalization, Value Co-Creation, Social and Eco Entrepreneurship, Q1-Q2

Source: own compilation

Digitalization in the context of social entrepreneurship

Figure 1

Digitalization in the context of social entrepreneurship

COVID-19  \(\xrightarrow{\text{Digitalization}}\) Social Entrepreneurship  \(\xrightarrow{\text{National Well-being}}\)  \(\xrightarrow{\text{Financial Security}}\)

Source: own compilation

Digitalization in social entrepreneurship: The COVID-19 impact

In the post-COVID world, enterprises need agility and speed to support their human capital and knowledge base while reducing costs (Kuckertz et al., 2020). Speed of learning can help identify new market niches, define products to develop, and find new ways to communicate with customers (Zahra, 2021). Digital technologies like 3-D printers can enable entrepreneurial opportunities, while social entrepreneurs typically face challenges of social and financial sustainability (Jean, Kim, & Cavusgil, 2020; Williams, Du, & Zhang, 2020; Langley et al., 2017) (Figure 1).

Digital technologies have enabled some social enterprises to maintain connections with established business platforms to address the challenges posed by COVID-19 (Zahra, 2021). Analysis of 128 social enterprises in a post-pandemic period in China shows that digital transformation can positively affect organizational identity (Aisaiti et al., 2021). A case study of eKutir (a social enterprise that uses a digital platform to deliver value for farmers in India) reveals that stakeholder stability and incentives are key factors contributing to the adoption of digitalization (Sengupta et al., 2021). Another post-pandemic research depicts that during COVID-19, the organizational scaling of Greek social enterprises embraced social impact through widening services and building collaborations in local and remote markets through digitalization (Loukopoulos & Papadimitriou, 2022). Digital hybridity – the phenomenon of deploying digital innovation to blend social and financial impacts – has enabled sustainability in social entrepreneurship (He et al., 2022).

There are many research focusing on how digitalization develops into agile marketing capabilities (Moi et al., 2019), because digital businesses show an agile response to modern-day challenges (Kraus et al., 2018; Nambisan, 2017), while social businesses can be flexible and solve societal issues (Mair & Marti, 2006). Battisti’s (2019) framework considers socially relevant groups in the entrepreneurial innovation and digital process, while Ibáñez et al. analyze social entrepreneurship and digitalization from a COVID-19 perspective (Ibáñez et al., 2022).

Investigations of nascent entrepreneurship can help to explain why individuals might decide to launch their own businesses, which can have a substantial impact on economic development and job opportunities (Szabo & Aranyossi, 2022). Worldwide Coronavirus lockdowns have expanded the development of the Digital Social Entrepreneurship, which was fulfilling social requirements by utilizing advanced digitalization (Yáñez-Valdés et al., 2023). Ghatak, Chatterjee & Bhowmick (2020) reveals reasons of intention towards digital social entrepreneurship as experiences in social enterprise and digital firm, and empathy, moral obligation, self-efficacy, perceived social support, feasibility and desirability mediate these relationships. The pandemic increased social initiatives, which were rich in innovation for the unsatisfied needs by the government, and due to economic agents seeking altruistic goals to transfer technology to the most vulnerable (Ibáñez et al., 2022).

Digitalization, national well-being and social entrepreneurship

As technologies raise life standards (Torres & Augusto, 2020), digitalization benefits national well-being if the country has an adequate system, and social enterprises
also affect national well-being when institutions are less powerful (Torres & Augusto, 2020). This finding supports the institutional void perspective (Urban & Kujinga, 2017) and contributes to the debate on the institutional perspectives that justify the creation of social businesses (De Beule et al., 2020). However, lack of social businesses can lead to low levels of national well-being in countries with low levels of digitalization, such as Thailand, Indonesia, and Morocco (Torres & Augusto, 2020).

Developing Latin American countries such as Chile also need and benefit from digitalization (Zebryte & Jorquera, 2017). Social benefit commitment guides innovation, and social entrepreneurs serve as an intermediary between citizens and the government (Sharma, Mishra, & Mishra, 2021). Research on 24 European social enterprises reveals an interesting paradox: the best success indicator is the disappearance of the corresponding social need (Desmarchelier, Djellal, & Gallouj, 2021). Digitalization in social entrepreneurship can have a fundamental part in advancing comprehensive development by setting out open doors for unprivileged people and in these communities, they can support the growth of small businesses, provide training, and create jobs, and overall, digitized social enterprises can help alleviate poverty and inequality by doing so.

Tech entrepreneurs are the most likely to start to business by defining their key market and getting an external, extrinsic reward in the form of money or recognition, unlike idealistic youth and arts entrepreneurs (Toscher, Dahle, & Steinert, 2020).

Research on smart city initiatives in four continents reveals four modes of leadership: digital government, a digital driver for economic growth, open platform for digital socio-political innovation, and open platform for the digital economy (Sancino & Hudson, 2020). Social entrepreneurship utilizes digitalization for its activities’ optimization while rejecting full automatization and using human intelligent decision support (Popkova & Sergi, 2020).

**Financial connection between digitalization and social entrepreneurship**

Social entrepreneurship literature usually conceptualizes the phenomenon as a business case where companies utilize financial means to solve social problems or combine the two aims (Battilana & Lee, 2014; Powell et al., 2019). On the contrary, there are fewer studies on how these contradictory aims impact the motivation to open a social business (Chandra, Man Lee & Tjiptono, 2021). One of these studies shows that drive to help society and to have financial gains are influential factors (Chandra, Man Lee & Tjiptono, 2021). Poverty, inequality, climate change, health, education, and human rights are just a few of the most pressing issues we face today, and digitalization of social enterprises has the potential to provide novel and efficient solutions more quickly to the above-mentioned problems. However, the motivation for public service is more powerful than money ethics (Chandra, Man Lee & Tjiptono, 2021).

Research on corporate social entrepreneurship offers individual actions to overcome economic challenges such as curbed earnings, unsafe work, and low levels of business initiatives, and the case study widens the knowledge-based perspective for digital social entrepreneurship, where fundamental knowledge stems from the personal life of the actors involved in the project (Scuotto et al., 2022). Starting a social business is mainly impacted by one’s caring about social issues, not wanting to be successful in commercial terms or skills to handle finance: The creation of values such as aspiration to help society is more important; accounting or financial abilities should be learned afterwards (Chandra, Man Lee & Tjiptono, 2021).

Research conducted by Aisaiti et al. (2019) found that knowledge of inclusive finance and social entrepreneurship increases benefits, decreases risk perceptions, and is essential to promote social businesses and digital finance to develop inclusive finance in rural China: Attitudes such as thinking about new ways to do things, digital innovation thinking, and having an intention to make a difference are important for starting a social enterprise, but risk perception was not as influential as other things due to increasing operating costs (Herлина et al., 2021). To make social businesses achieve their social missions, it is important for social business, government, and research institutes to increase their cooperation to continuously gain farmers’ trust and the recognition of social businesses’ value (Aisaiti et al., 2019).

Crowdfunding is a financing source for social enterprises, with four types of project creators: social entrepreneur, fund seeker, indie producer, and daring dreamer based on four motivations: achievement, monetary need, pro-sociality, and relationship building. (Ryu & Kim, 2018). Due to unique hardships, crowdfunding’s usage is still limited in social entrepreneurship. However, Chandra (2022) suggests remobilizing idle resources using digital platforms to support social enterprises by securing assets and connecting stakeholders. Digitalization benefits financial security, allowing social enterprises to perform better and contribute to the solution of some problems in Spain (Martín, 2020). Even though IT support for marketing activities – both in Hungary and abroad – is below the average of other company specialties (Keszy, 2007), research on ownership of information systems also depicted that such organizational factors in foreign businesses and environmental factors in domestic businesses both influence perceptions (Keszy, 2017).

Researchers conducted a case study of 30 Dutch-based cryptocurrencies to reveal social innovators’ motives and found that digital money systems can be considered social innovations, but their potential for disruptiveness is curbed by design: Money governance could be improved by implementing digital public token-based design and other digital instruments (van der Linden & van Beers, 2017). Social businesses in Indonesia and Singapore have networked with impact investors, suggesting strategic communication through digital technologies to improve them: These approaches, such as facilitating open digital communication between social companies and angel investors, guarantee funding and force the social investment marketplace to improve (Ryder & Vogeley, 2018).
Digitalization’s performance increasing impact on social entrepreneurship

Other than finance-related aspects, there are other impacts of digital transformation on social entrepreneurship, such as digitalization decreasing the time spent or increasing health provisions. In this subsection, we show these other impacts.

Social businesses’ digital context from profit-oriented companies is different from traditional firms (Benmamoun et al., 2021). By default, social entrepreneurship is very distinct from for-profit companies (Dees, 1998; Mair & Martí, 2006), their online presence is also distinct from their offline one, and in field operation of foreign countries, social businesses take advantage of adapting to local environment (Zahra et al., 2008; Volery, 2010; de Arruda & Levrini, 2015); however, when using websites, they take advantage of standardizing rather than localizing to the service areas (Benmamoun et al., 2021). Thus, improvement in theory should take into account mediums such as websites, social media, and in-person, which have different intentions and results (Benmamoun et al., 2021). Also, social enterprises should consider their target audience when developing an international website rather than copying traditional companies’ practices based on consumer culture and language (Benmamoun et al., 2021).

Research is being done to examine how agri-food companies use digital data and how their behavior changes depending on the type of data they are utilizing in the creation of their products (Frau & Keszey, 2023). In order to get cleaner food production, companies should use nature-driven agility – company’s “ability to flexibly and effectively utilize natural resources to adapt the full production process to market changes and capture new value-creation opportunities within nature constraints” (Frau et al., 2022). Research by Frau, Moi, Cabiddu & Keszey (2022) revealed that nature-driven agility is based on digitalization. Carroll & Casselman’s (2019) research on cause-based voluntary service reveals that digitalization reduces uncertainty, expenses and time spent by allowing social enterprises to conduct advanced experiments. Research on Food Assembly, which connects social entrepreneurship and digital innovation to achieve sustainability and a high social impact, reveals that sharing online knowledge impacts sustainable buying and consuming, while on-site knowledge impacts sustainable buying (de Bernardi et al., 2019). Moreover, Goyal, Agrawal, & Sergi (2021) research social businesses to solve water, sanitation, and waste management problems in India’s urban areas and show how digital technologies can be used to increase reach, efficiency, transparency, social inclusion, connection, and decrease expenditures, especially in rural regions.

Research in 155 Chinese social enterprises reveals that social businesses should use big data to improve employee performance and increase vitality in their businesses (Wan & Liu, 2021). Circular economy principles contribute to societal transformation through innovation, digital solutions, blockchain technologies, and their social results to address environmental challenges (Ilic et al., 2022).

Similarly, AI-based innovation can reduce social problems, increase work performance, and create new business models through value co-creation (Battisti et al., 2022).

Digitalization solves healthcare access divide in developing societies by increasing geographical accessibility, decreasing expenses, making services inclusive, and technology creates service-centric value by increasing geographical accessibility and decreasing expenses. (Srivastava & Shainesh, 2015). Similarly, Poveda et al. investigate one social enterprise’s digital skills training contribution and reveal that it can improve the health conditions of people and provide health services in the Philippines, complementary to public health government programs (Poveda et al., 2019). Wilson et al. (2017) mention that digitalization and use of information and communication technologies facilitate healthcare for elderly Italians in the municipality. Furthermore, Murdock and Lamb (2009) state that Digitalization of the Royal National Institute for the Deaf improved their service quality. Other than the health sector, digitalization also affects eco enterprises in education. As an illustration, Pakura (2020) showed that green-tech startups can benefit from technological advancement through partnerships and the firm development.

Value co-creation in the context of social entrepreneurship

Value co-creation in the context of social entrepreneurship

Value co-creation and social entrepreneurship: the COVID-19 impact

The outbreak of COVID-19 has caused a surge in digital products and services, one of which is the streaming of theatrical performances online: This new market has opened a host of possibilities for businesses, all while providing customers with an alternate way to enjoy their favorite theatrical productions (Aranyossy, 2022) (Figure 2).

The COVID-19 pandemic also caused social difficulties due to the need to think globally and locally. This had a significant effect on social policy, and policymakers must use social entrepreneurship and value co-creation strategies to address the issues (Ratten, 2022). A social value co-creation perspective can be used to address the COVID-19 crisis, and according to Di Domenico et al. (2010), social value creation is a link between traditional
Value Co-Creation and Social Entrepreneurship: Social Value Co-Creation in Inclusive Business Models

Studies in service research have highlighted the importance of value co-creation in the B2B environment (Cabidda et al., 2019). Literature on social entrepreneurship provides a limited understanding of how to generate social value (Sigala, 2019). It's heavily researched from three major streams of research: entrepreneurial behavior (Dees, 1998; Mort et al., 2003); entrepreneurs' characteristics (Dees, 1998; Kline et al., 2014); and social entrepreneurship's results measuring (Sigala, 2019). Social entrepreneurs need to develop network structure, market practices and market pictures to generate social value (Sigala, 2016). Similarly, studies need to study value co-creation from “sense-of-meaning” approach (Sigala, 2019). By involving customers in value co-creation, social entrepreneurs can ensure their businesses creating meaningful social change.

A case study of Italian social businesses for researching value co-creation shows that involvement of all critical actors in cause-based network increases commitment to address society's problems, enhancing social legitimacy (Ceesay, Rossignoli, & Mahto, 2022). Bendickson (2021) found that advanced knowledge of collaborative value practices of social entrepreneurship alliances can enhance SME managers' collaborative capabilities for enhancing their performance (Taylor & Thorpe, 2004).

To highlight connection between value co-creation and social entrepreneurship, we focus on inclusive business models. Schoneveld's (2020) definition emphasizes involvement of people with limited revenue and value co-creation through solving social problems. It doesn't have profit maximization goal but has potential to make net value for people with limited revenue and create complementary revenue sources (Schoneveld, 2020).

Value co-creation and social entrepreneurship: Increased efficiency

Social entrepreneurial self-efficacy is a concept elaborating human behavior towards social missions that affect one's beliefs, efforts, levels of input, and persistence (Dwivedi & Weerawardena, 2018). Sam Liu and Huang (2020) gather data from 386 firms in Taiwan, investigate social entrepreneurship's role in value co-creation processes among many others and depict that social entrepreneurial self-efficacy positively moderates the different relationships among proactiveness, market orientation and value co-creation.

Even though there are some studies focusing on value co-destruction - adverse results of value co-creation (Frau et al., 2018), Abedin, Maloney & Watson (2021) study both the advantages and disadvantages of online communities for value co-creation by social entrepreneurs and reveals that improved access, time-cost efficiency, raised response rate, and networking are among the advantages, while capacity absence, not enough moderation, inactivity and effort fragmentation are disadvantages. Social entrepreneurs concentrate on social value creation for their target group, incorporate social values into their innovations, and guide collective stakeholder action to improve their solutions (Lubberink et al., 2019).

OurCityLove is an example of a social business using value co-creation to increase service quality and accessibility for mobility-impaired persons, and research by Lin et al. (2019) shows that value co-creation increases restaurants’ awareness of giving friendly experience, mobility-impaired people’s chance to help the investigation and contribute valuable insights to the application, and government can increase mobility impaired people’s satisfaction by motivating restaurants with friendly restaurant certification. Social enterprises can use value co-creation to involve supply and demand sides, and government policymakers can also be engaged in this value co-creation process (Lin et al., 2019).

Connecting digitalization, value co-creation and social entrepreneurship

Digitalization decreased COVID-19 challenges (Zahra, 2021) and increased collaborations for social enterprises (Loukopoulos & Papadimitriou, 2022). The COVID-19 pandemic caused a lack of government action, leading to increased social initiatives and digital social entrepreneurship to improve stakeholder satisfaction (Ibáñez et al., 2022). If we connect these findings, we can easily sense that COVID-19 increased the level of digital transformation, and digitalization positively affected the performance of social enterprises (see Figure 3).

The pandemic also raised social value co-creation, such as seed plant initiatives and reducing homelessness:
Governments, social enterprises, and homeless people have come together to create new benefits that address the pandemic’s negative impacts in which the value co-creation processes have been catalyzed, and as a result, increased focus on social entrepreneurship (Ratten, 2022). We can conclude that the pandemic caused the value co-creation process in the context of social entrepreneurship (see Figure 4).

Digital financing favors the people for solving social problems (Martin, 2020; Chandra, 2022), and reduces transaction costs (Aisaiti et al., 2019; Goyal et al., 2021). Digitalization can increase sustainability in social enterprises (de Bernardi et al., 2019). Big data enabling has a positive relationship with employee performance in social enterprises (Wan & Liu, 2021). Digitalization improves geographical accessibility, lowers expenses, and, finally, makes healthcare services inclusive (Srivastava & Shainesh, 2015). We can conclude that digitalization decreases social entrepreneurial challenges and increase performance in the form of digital finance and crowdfunding (Figure 5).

Similarly, social enterprises can use value co-creation to create a better user experience (Lin et al., 2019). In this way, value co-creation affects social entrepreneurship positively to create a more inclusive, accessible and equitable society. Using digitalization can provide disadvantaged individuals with greater access and more power (Ibáñez et al., 2022). Through digitalization and value co-creation, OurCityLove can bridge the gap in service (Lin et al., 2019).

Taking all these into consideration, we can state that both digitalization and value co-creation increased social entrepreneurship performance (see Figure 5). Since The Friendly Restaurant app is empirical result of value co-creation research (Lin et al., 2019), we can also conclude that value co-creation process improved digitalization in context of social entrepreneurship and relationship between them is also positive. Simultaneously, digitalization has enabled social enterprises to create new value through co-creation. Even though app stems from a value co-creation study (Lin et al., 2019), without digitalization, co-creation process wouldn’t happen. Thus, by leveraging technology, social entrepreneurs can collaborate with stakeholders to create innovative products, services, and solutions.

Additionally, digital tools can be used to facilitate access to support networks and wide range of resources. By using digital tools to co-create value, social entrepreneurs can maximize impact of efforts and create more equitable and sustainable world. Taking all these into consideration, we can conclude that digitalization and value co-creation are mutually affecting each other in positive way (see Fig. 5).

Discussion of findings

In this part, we discuss research gaps, theoretical contributions, managerial relevance and practical implications, recommendations for future research and finally, limitations.

Research gaps and theoretical contributions

A comprehensive review of 61 academic articles was conducted to address key research question of “What underlying mechanisms tie digitalization, value creation and social entrepreneurship?” aiming to understand existing knowledge in academic field. To meet the first objective of consolidating existing research and conceptualizing digitalization and value co-creation in context of social entrepreneurship, comprehensive research profile was created. The second objective was to analyze thematic connections between different studies. This was done by exploring common themes across studies in previous section. The aim was to identify any remaining research gaps in order to progress subject’s development. It attempted to establish and validate research agenda, examine evidence for particular research question, synthesize existing evidence to provide comprehensive understanding of topic, and finally craft recommendations for action based on review findings.

It appears that research development is leading to new field of study focused on use of digitalization and value co-creation to assist social entrepreneurship. We can expect to see increasing number of studies on this topic in future. However, our research has identified that articles connecting 3 streams of literature is lacking. Our research aim was to identify gaps and connect 3 streams, and with this, we tried to contribute to literature. The first research gap is connection between social entrepreneurship, digitalization and value co-creation. Our research has identified themes connecting three streams of literature that need improvement.
Secondly, there is a deficiency in COVID-19 focus on articles about both digitalization and value co-creation in context of social entrepreneurship. Even though there are separate studies focusing on digitalization and social entrepreneurship in COVID-19 as well as value co-creation and social entrepreneurship in post-COVID-19 period, we think it’s vital to investigate all 3 streams of literature together. Research found that literature on correlation between digitalization and value co-creation for social enterprises is scarce and disjointed. Literature on COVID-19 has largely failed in its purpose of synthesizing and providing guidance to businesses and regulators on how to implement programs related to social entrepreneurship, value co-creation, and digitalization in post-COVID-19 period, which is surprising given the vast number of papers on these topics.

This study contributes to current literature by suggesting two theoretical frameworks based on the gaps in the literature and suggesting a research agenda for future research. Framework depicting Positive Relationship between COVID-19, Digitalization, Value Co-Creation and Social Entrepreneurship (see Figure 4) is one of theoretical contributions of this article. The relationship among these variables wasn’t explicitly investigated before. The theoretical contribution of this academic research is the contribution that the research makes to the current body of knowledge on the literature streams of digitalization, value co-creation and social entrepreneurship. Additionally, also involving COVID-19 impact, this research adds to the overall understanding of the topic and tries to help gain a new perspective after the pandemic in terms of the existing literature and theory.

The Framework depicting Positive Relationship between Value Co-Creation, Digitalization and Social Entrepreneurship (see Figure 5) is the second theoretical contribution of this article. In this regard, this article helps to reveal a direct relationship between digitalization, value co-creation and social entrepreneurship and tries to resolve the inconsistencies in the literature. The main purpose these theoretical frameworks serve is that these suggestions need for further empirical testing.

Research agenda, recommendations for future research

The current state of research on social entrepreneurship does not provide results that are applicable to different contexts and does not adequately consider the relationship between digitalization, value co-creation and social entrepreneurship. To address this misalignment between theory and practice, a research agenda is needed that focuses on the topics mentioned in this section.

A further suggestion for research into the relationship between digitalization, value co-creation and social entrepreneurship includes studying the topic from the perspective of other mainstream marketing and business themes, such as innovation, sustainability and financial security. Additionally, since our research didn’t cover the connection between value co-creation and national well-being, we left it out, however, since we recognize its great potential, we would like to mention it as a direction for future research as well.

By making thematic choices through clear and wide research questions, the importance of the topic for the pure management subject will be acknowledged. The following research questions in Table 3 can be mentioned for future research:

<table>
<thead>
<tr>
<th>Main topics</th>
<th>Possible Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digitalization and Social Entrepreneurship</td>
<td>What are the opportunities and risks of digitalization for social entrepreneurship? How does digitalization affect the ability of social entrepreneurs to access resources? What are the advantages and drawbacks of digitalization for social entrepreneurship?</td>
</tr>
<tr>
<td>Value Co-creation and Social Entrepreneurship</td>
<td>How can value co-creation support the financial goals of social entrepreneurs? How can organizations use value co-creation to drive innovation?</td>
</tr>
<tr>
<td>Digitalization, Value Co-Creation and Social Entrepreneurship</td>
<td>How does digitalization facilitate the collaboration of stakeholders in social enterprises? How does digitalization enable value co-creation for social entrepreneurship? How can digitalization and value co-creation be used to address sustainability issues in social entrepreneurship? How can digitalization and value co-creation be deployed to improve social entrepreneurship? What role does value co-creation play in digitalization of social enterprises?</td>
</tr>
</tbody>
</table>

This study has provided a clear research agenda for marketing, business and management scholars to identify potential gaps and avenues for further research. Two gaps have been identified, which concern the connection of 3 streams and COVID-19 focus. Furthermore, examples of relevant research questions and thematic fields have been proposed. Future research should aim to address these gaps and explore the potential of the suggested research questions and thematic fields. This would enable scholars to gain a deeper understanding of the field and develop effective strategies for managing marketing, business and management operations.

Limitations of the research

This study presents some limitations, which need to be addressed in further research. The choices made in a systematic literature review can be disputed, as the sample is highly dependent on the search keywords and the applied restrictions. Quality criteria may further exclude impor-
tant studies, and the sample is naturally limited to the offer available, as papers were selected from two different databases. Additionally, the guiding research question could be explored in a different way, such as multiple case studies with in-depth face-to-face interviews with social entrepreneurs, which could provide further insight into the relationship between digitalization, value co-creation and social entrepreneurship. To ensure a comprehensive review of this topic, it is essential to consider the limitations of this research and address them in future studies.

References


