The Distinction Between Online Social Capital and Traditional Social Capital: A Bibliographic Comparison

Çevrimiçi Sosyal Sermaye ile Geleneksel Sosyal Sermaye Ayrımı: Bibliografik Bir Karşılaştırma

Artür Yetvart MUMCU* iD

İstanbul Kültür University, University, Department of Entrepreneurship, İstanbul, Türkiye

Abstract

This study examines the conceptual distinctions between online social capital and traditional social capital. Articles indexed in the Web of Science were reviewed, focusing on these two forms of social capital. Using the VOSviewer software, network analyses were conducted, visually highlighting the conceptual differences between the two. Online social capital revolves around processes of accessing information and building extensive networks via digital platforms and social media, while traditional social capital is primarily grounded in physical communities and long-term relationships. This research sheds light on how digitalization is transforming social structures and the processes of social capital formation, providing key insights into the shifts brought by the digital age. Particularly in the post-COVID-19 era, the study emphasizes the growing role of online social capital, as the pandemic increased the reliance on digital platforms for social interaction and networking. These findings underline the importance of understanding both forms of social capital in a world increasingly shaped by technology and online connections.

Keywords: Online Social Capital, Social Capital, Bibliography, Network.

Öz

Bu çalışma, çevrimiçi sosyal sermaye ile geleneksel sosyal sermaye arasındaki kavramsal ayrımları incelemektedir. Web of Science endeksinde yer alan makaleler, çevrimiçi ve geleneksel sosyal sermaye kavramları üzerine taranmış ve analiz edilmiştir. VOSviewer programı kullanılarak ağ analizleri yapılmış ve iki kavram arasındaki farklar görsel olarak ortaya konmuştur. Çevrimiçi sosyal sermaye, dijital platformlar ve sosyal medya aracılığıyla bilgiye erişim ve geniş sosyal ağlar kurma süreçlerini ifade ederken, geleneksel sosyal sermaye daha çok fiziksel topluluklar ve uzun süreli ilişkiler üzerine kuruludur. Bu çalışma, dijitalleşmenin toplumsal yapı üzerindeki etkilerini ve sosyal sermaye oluşturma süreçlerindeki dönüşümleri anlamak açısından önemli bulgular sunmaktadır. Özellikle COVID-19 pandemisi sonrasında çevrimiçi sosyal sermayenin artan rolü vurgulanmaktadır. Pandemi, dijital platformların sosyal etkileşimdeki önemini artırmış ve çevrimiçi sosyal sermayenin gelişimini hızlandırmıştır. Bu bulgular, teknoloji ve çevrimiçi bağlantıların toplumsal sermaye üzerindeki rolünü daha iyi anlamak için önemli ipuçları sunmaktadır.

Anahtar Kelimeler: Çevrimiçi Sosyal Sermaye, Sosyal Sermaye, Bibliografi, Ağ.

The Distinction Between Online Social Capital
and Traditional Social Capital: A Bibliographic Comparison

This study aims to examine the concepts of online social capital (OSC) and traditional social capital (SC) in depth, highlighting how social relationships have transformed in a digitalized world. As digitalization accelerates, the way individuals build, maintain, and utilize social capital has undergone significant changes (Yang et al., 2024). While traditional SC is primarily based on face-to-face interactions and long-term relationships within physical communities, OSC emerges through digital platforms, enabling broader but weaker social connections. Understanding these distinctions is critical for evaluating how digitalization reshapes societal structures and influences access to social resources (Xiao, 2024).

This research seeks to answer the following question: How does online social capital differ from traditional social capital, and in what ways do these two forms of social capital intersect? By identifying these differences and overlaps, the study aims to contribute to both theoretical discussions and practical applications of social capital in digital and physical contexts. Recognizing these distinctions is crucial in various domains, including community building, political participation, economic activities, and well-being. For instance, while traditional SC has been associated with trust-based relationships that facilitate cooperation, OSC provides new opportunities for information exchange, digital activism, and global networking. However, the implications of these structural differences on social cohesion, resilience, and economic outcomes remain an open question, making this research particularly relevant (Lautier, 2016; Trippl et al., 2024).

By employing a bibliometric analysis of Web of Science (WOS) indexed articles, this study identifies the key themes, methodologies, and theoretical frameworks used to study both OSC and SC. Through network analysis using VOSviewer, it visually demonstrates the conceptual distinctions and intersections between the two forms of social capital. This methodological approach allows for a systematic and data-driven exploration of how OSC and SC have been conceptualized in academic research, shedding light on evolving trends in the field.

Recent studies have emphasized the increasing role of OSC, particularly after the COVID-19 pandemic, as physical interactions diminished and digital platforms became crucial for maintaining social relationships (Barrios et al., 2021). In this period, OSC facilitated community support, digital collaboration, and new forms of social participation. However, the long-term impact of this shift on social cohesion, trust, and economic engagement remains a subject of academic inquiry.

The significance of this research lies in its ability to provide a comprehensive framework for understanding the evolution of social capital in the digital age. While traditional SC remains relevant in fostering trust and cooperation within local communities, OSC introduces a new paradigm that expands social networks across digital platforms. By identifying the conceptual and empirical distinctions between these two forms of social capital, this study contributes to the ongoing discourse on how digitalization reshapes social structures and interactions. These insights are essential for policymakers, researchers, and practitioners seeking to navigate the complexities of social capital in both physical and digital environments (Portes, 1998).

This study is the conclusion of the week and it makes clear the division between OSC and the traditional SC which is one of the main reasons why the digital world impacts the social relationships (Nowland et al., 2018; Ohara et al., 2024). Individuals are able to exchange SC when using OSC in virtual settings, where it is much easier to acquire a number of connections, i.e. SC, while traditional SC must be formed through relationships with local people and in a long-term way (Li & Chen, 2023) . The fact that it has this feature is particularly essential because it denotes a radical change in the way social capital is

created and preserved in today's society. The move from strong ties, which have always been SC's backbone, to weak ties, which are the trademark of OSC, opens space for serious social cohesion, trust, and collective action (Nowland et al., 2018).

One of the important questions in the literature is if this change is a shift in the concept or if it is a fragmentation of social capital theory. Is the emergence of OSC a source of confusion in the field or does it give us a background of how social capital changes over time? The paper presents a view of reality that concepts like OSC and SC are not conflicts but they should complement instead of contrast. Although traditional SC is still the one that ensures the spirit of trust and provides close-knit communities, OSC acts as a channel for adding new relationships, sharing documents, and organizing large-scale collaboration. Nonetheless, the predominance of weak ties in the social capital making process may have adverse effects on community resilience, long-range social support, and the collective action sustainability.

In the next research, it will be necessary to find out whether OSC is indeed a paradigm shift in social capital theory or it just reflects the adaptation to technological change. The inquiry into the history of social capital would serve to clarify if the coming of OSC is indicative of a larger redefining of social capital, or it is just a linearly growing of the current framework. The new projects should look into the effects of OSC on trust building, networks' stability, and institutional connections, particularly in the areas of economic development, political participation, and social mobility.

This study has the value of presenting the fact that while the introduction of OSC complicates the comprehension of social capital, it also permits its use as a heuristic to analyze how digitalization affects societal relationships. Theoretical confusion rather than ambiguity, in fact, this shift is the sign of social capital's flexibility as reshaped by changing social structures and technological advancement. The continual rise of digital spheres and the combination of strong and weak ties, local and global networks, physical and virtual interactions will hence be essential to steer our future social capital.

Literature Review

Online Social Capital

The concept of OSC has necessitated a reevaluation of the SC framework due to the rapid development of technology and the internet. Initially, SC was defined by sociologists and political scientists in the early 20th century as the benefits and resources individuals and groups obtain through their social networks (Coleman, 1988; Granovetter & Swedberg, 2018). In the 1990s, Robert Putnam's work highlighted the influence of SC on societal structures, emphasizing that the concept is shaped by social networks, trust, and norms of reciprocity. However, with the emergence of the internet, researchers began to explore how SC evolves in the online world and how digital networks affect this concept.

The term "online social capital" first gained attention in 1996, through the studies of Wellman and colleagues, which examined the internet's effects on social networks. They argued that the internet is not just a technological tool but also a platform for forming both strong and weak ties, creating new social networks (Wellman et al., 1996). These studies demonstrated that the internet has the potential to expand individuals' social relationships and that online connections can be as valuable as those in the physical world. The impact of the internet on SC has become more apparent, particularly with the widespread use of social media and online communities.

Williams (2006) conceptualized OSC and advanced this field of study by developing the OSC Scale, which measures the social ties individuals form in online environments. Williams's research examined OSC in two dimensions: bridging social capital and bonding social capital. Bridging social capital allows access to diverse information and resources through weak ties, while bonding social capital

offers emotional support and solidarity through strong ties (Granovetter, 1973; Putnam, 2000). Williams's scale has highlighted the significant role of SC not only in offline but also in online contexts (Williams, 2006).

With the rise of social media, OSC has attracted more scholarly attention. Ellison et al. (2007) found that platforms like Facebook facilitate the development of bridging social capital by giving users access to information and resources through weak ties. Social media platforms enable users to communicate with individuals they might not otherwise reach, thus broadening their SC (Burke et al., 2010). Additionally, online communities and virtual networks help maintain and strengthen strong ties between individuals, ensuring both access to information and emotional support (Haythornthwaite, 2002).

Research on how SC has evolved in online environments reveals several key differences between online and traditional SC. While traditional SC is typically built on geographic and physical proximity, OSC transcends these boundaries, allowing for the formation of more diverse and heterogeneous networks (Norris, 2002) . This capacity to connect across distances, especially in terms of bridging social capital, enables individuals to access information and resources previously beyond their reach (Putnam, 2000; Williams, 2006).

OSC has become a crucial tool for understanding the economic, social, and emotional impacts of connections formed in the digital world. The conceptual development initiated by Wellman's (1996) studies has been expanded upon by Williams's (2006) scale and Ellison and colleagues' (2007) research within the context of social media. The transformative effects of digital communication tools on social capital have led to increasing recognition of the importance of OSC in the social sciences.

OSC, as Williams (2006) noted, retains the concepts of bridging and bonding social capital, even in virtual environments. Bridging social capital increases access to information and resources through weak ties across large and diverse networks, while bonding social capital provides emotional support through strong ties (Granovetter, 1973; Putnam, 2000; Williams, 2006). Ellison et al.'s (2007) work on Facebook demonstrates the significant impact of social media on the development of bridging social capital. Their study shows how OSC can expand through weak ties, enabling individuals to connect with different communities and gain access to valuable information and opportunities. Similarly, Burke et al. (2010) found that social media platforms enhance users' SC networks, promoting information exchange within these networks. These findings underscore the broader reach and diversity of OSC compared to physical-world SC.

The development of OSC has accelerated, particularly with the widespread adoption of social media platforms. Social media facilitates access to vast information networks through weak ties, while also supporting the maintenance of strong ties (Kim & Fernandez, 2023). This dual function demonstrates that OSC is not only about information sharing but also plays a vital role in maintaining emotional support systems. Weak ties help support broad social networks, while strong ties reinforce more personal and intimate relationships (Mumcu, 2021).

Another important aspect of OSC is its capacity to transcend geographic and social boundaries. Norris (2002) points out that online networks connect individuals from diverse demographic and cultural backgrounds, making SC networks more heterogeneous. This diversity offers significant advantages in terms of access to information and resources. Additionally, Williams's (2006) OSC Scale is widely recognized as a critical tool for measuring how SC operates in online settings. The scale has been frequently used to understand how SC forms and develops in digital contexts.

In conclusion, the literature on OSC illustrates that the concept of SC has been reshaped in digital environments. The weak and strong ties individuals form through online networks help us understand the new dynamics of SC in the digital world (Mumcu et al., 2023). Social media and digital

communication platforms allow individuals to access information and resources previously beyond their reach, positioning OSC as distinct from traditional SC (Norris, 2002; Skoric et al., 2009).

Social Capital

SC is a widely discussed concept in literature, referring to the resources that individuals and groups obtain within social networks. Early theorists such as Bourdieu (1986) and Coleman (1988) linked SC to the benefits and opportunities gained through social relationships. However, in the last decade, the scope of SC has expanded to include digitalization, health, and gender issues.

Recent studies have delved deeper into the economic, health, and social impacts of SC. For instance, Grootaert and Van Bastelaer (2002) argued that SC is a critical component in development processes, particularly in improving community welfare in low-income countries. Modern economic research continues to link SC with economic development and social resilience (Dasgupta & Serageldin, 2000; Mumcu, 2022).

In the health field, contemporary research has shown that SC significantly influences individuals' physical and mental well-being. Ehsan and De Silva (2015) found that SC improves health outcomes at the community level and strengthens individuals' overall health. Particularly during the pandemic, SC was observed to reinforce interpersonal support networks and facilitate access to healthcare services (Borgonovi & Andrieu, 2020). These studies demonstrate that SC impacts not only social relationships but also health and quality of life.

The relationship between gender and SC has also become a focus of recent research. Bezanson(2006) explored how gender inequalities affect the accumulation of SC, arguing that women may have more limited access to SC networks compared to men. However, more recent studies suggest that digital platforms and social media can mitigate some of these inequalities. For example, Hampton et al. (2011) noted that digital environments help women expand their SC, offering a critical perspective on how gender is being restructured in digital contexts.

The most recent studies on SC also examine how digitalization has impacted this concept. Dolfsma and Verburg (2005) investigated the role of SC in the digital economy and discussed how online networks increase bridging social capital. Social media platforms enable individuals to access broader social networks, thus facilitating the accumulation of SC and accelerating information exchange (Tufekci, 2017). Additionally, the digital transformation triggered by the pandemic has shown how SC is strengthened through digital networks, enhancing community resilience in times of crisis (Putnam et al., 2004).

Furthermore, the impact of SC on urban planning and community resilience has been explored. McGuirk and Dowling (2007) emphasized that SC is a crucial tool for enhancing the resilience of urban communities, helping cities improve their ability to cope with crises. In this context, SC is seen not only as a means of providing individual benefits but also as a factor that supports collective action and resilience within communities (Mishchuk et al., 2023).

In conclusion, SC is considered a critical resource in areas such as social resilience, economic development, health, and gender equality. Contemporary research emphasizes its role in improving the quality of life for individuals and communities while examining how digitalization and gender dynamics affect the concept from a broader perspective. SC continues to be a key structural element in modern societies at both individual and community levels.

Theoretical Framework: Online and Traditional Social Capital

Social capital (SC) has long been studied in sociology, political science, and economics as a key concept explaining how individuals and groups access resources through social networks. Traditionally, SC has been associated with strong ties, face-to-face interactions, and trust-based relationships, which foster cooperation, economic development, and community resilience (Bourdieu, 1986; Coleman, 1988). However, with the increasing influence of digitalization and online communication, the concept of Online Social Capital (OSC) has emerged, reflecting how social interactions and network formations have been redefined in digital environments (Ellison et al., 2007; Williams, 2006). This section explores the economic, spatial, cultural, and political dimensions of SC and OSC, as well as the critical perspectives regarding the potential weakening of SC due to digitalization. Additionally, the concept of Hybrid Social Capital (HSC) is discussed to examine whether OSC replaces or complements traditional SC.

One of the fundamental distinctions between SC and OSC lies in their economic implications, particularly in trust-building and transaction costs. Traditional SC has been essential for fostering trust-based economic exchanges, reducing transaction costs, and enabling business partnerships, credit access, and investment collaborations within strongly connected communities (Putnam, 2000). In contrast, OSC operates in decentralized, algorithm-driven digital economies, where weak ties, reputation systems, and platform-mediated interactions play a crucial role in shaping trust (Tapscott & Williams, 2008). While OSC provides greater accessibility to economic opportunities, it also introduces new vulnerabilities, such as fraud risks, misinformation, and the instability of weak-tie networks. Future research should explore whether OSC effectively substitutes traditional trust networks or whether it creates new forms of economic fragility.

SC has traditionally been place-bound, relying on geographic proximity, community engagement, and neighborhood-based trust (Woolcock, 2001). Local interactions have historically strengthened communal solidarity and played a key role in rural and urban development. However, OSC transcends physical space, forming borderless, globally dispersed digital networks (Wellman et al., 1996). While this expansion increases access to diverse information sources and global collaborations, it also raises concerns regarding weaker community ties and declining local engagement. The question remains whether OSC serves as a complementary extension of SC or contributes to the erosion of localized social capital.

The impact of OSC on political participation, social movements, and civic engagement is another key area of theoretical debate. Traditional SC has been fundamental in grassroots activism, democratic participation, and trust-based institutional engagement (Hampton, 2003). In contrast, OSC has transformed political engagement by facilitating digital activism, online petitions, and large-scale virtual mobilization (Tufekci, 2017). However, critics argue that weak-tie networks in OSC result in short-lived engagement, reducing long-term community cohesion and democratic stability. The concept of Hybrid Social Capital (HSC) emerges here as a middle ground, questioning whether traditional SC disappears in digital spaces or is merely enhanced and expanded through digital tools. Future research should assess whether OSC enhances or weakens institutional trust and sustainable civic participation.

A major criticism of OSC is its over-reliance on weak ties, which some argue leads to a less stable and less effective form of social capital (Granovetter, 1973). While traditional SC is rooted in deep, trust-based relationships that support long-term collaboration and community resilience, OSC consists of short-lived, large-scale but weaker social connections. Digital platforms facilitate quick mobilization but often lack the depth and continuity required for sustained collective action (Nowland et al., 2018). The critical debate remains whether the predominance of weak ties in OSC signals a structural

weakening of SC or whether it represents an adaptation toward more flexible, global, and rapidly evolving social capital models.

By incorporating economic, spatial, cultural, and political perspectives, this study strengthens the theoretical framework of SC and OSC. Understanding these distinctions is essential for assessing the long-term impact of digitalization on social structures, economic transactions, and political engagement. Future research should investigate whether OSC represents a fundamental paradigm shift in social capital theory or simply an evolutionary adaptation to technological advancements. As digital connectivity continues to redefine social interactions, the relationship between strong and weak ties, local and global networks, and physical and virtual interactions will play a crucial role in shaping the future of social capital.

Method

This study adopts a qualitative research approach, utilizing content analysis as the primary method. Content analysis is a systematic technique used to uncover meaning and patterns within texts (Krippendorff, 1980). In the context of this research, content analysis is employed to examine the terms "social capital" (SC) and "entrepreneurship" in the titles and abstracts of articles from the (WOS) database, with the aim of identifying key concepts associated with these terms.

Sample

The study is structured as a bibliographic review, systematically analyzing data derived from a comprehensive literature review (White et al., 2006). Bibliographic reviews are an effective method for evaluating published works on a specific topic, identifying the main themes, trends, and gaps in the literature (Tranfield et al., 2003).

This study is concentrating on the words OSC and SC that have been used in the titles and abstracts or keywords of the articles. As a part of the dataset's robustness measure, it has been decided to include solely articles that were published in English and have been classified as scientific journals (Zhu & Liu, 2020). The sample for this study consists of articles published in the globally recognized (WoS) index, selected for its validity and credibility. The (WoS) database is renowned for indexing high-impact journals, making it a reliable source for bibliometric analyses (Visser et al., 2021). However, it's important to note that WOS's coverage is more selective compared to other databases. For instance, Scopus and Google Scholar offer broader journal and publication diversity. Scopus encompasses a wider range of journals, including regional and lower-impact publications, while Google Scholar includes non-academic content, which may affect data reliability (Falagas et al., 2008). Therefore, to maintain academic rigor and focus on high-quality publications, this study exclusively utilized the WOS database.

To provide a contemporary and relevant perspective, this study focused on articles published in the past 10 years (2014-2024). Although both SC and OSC have longer academic histories, the distinction between the two has become more pronounced in recent years due to the rapid acceleration of digitalization, the widespread adoption of social media, and the increasing importance of online communities. The impact of the COVID-19 pandemic further amplified the relevance of online social capital, as physical interactions decreased and digital platforms became primary spaces for social networking and collaboration (Barrios et al., 2021). Given these recent developments, limiting the analysis to the past decade allows for a more focused and updated examination of how OSC and SC have evolved and diverged in the digital age. Only English-language scientific papers with relevant titles were included in the review.

The process of compiling keywords that were taken out of the articles was effectively done including merging synonymous and redundant terms into coherent lists. Upon receiving the final keyword lists, the researcher together with two experts of the fields of Economics and Administrative Sciences validated the lists (Bryman & Cramer, 2012; Patton, 2014). The methodological framework, which is strengthened by these two interconnected samples. This framework not only provides a broader perspective on online social capital but also social capital based on conceptual and thematic distinctions.

This research methodology involved highly systematic steps that were designed to ensure accurate analysis of the data along with reliable results.

Procedure

- Searches in WOS Journals: For the first sample, the searches were executed in journals that are recorded in the WOS database, based on the exact keywords. By this process, the study retrieves 19,784 articles on the traditional social capital. The second sample of searches occurred in journals that are enrolled in the same database, being sought with the identical keywords. Thus, it managed to generate a total of 3,791 articles.
- Keyword Consolidation: Similar keywords were accepted and clustered into coherent, unified lists with the help of a thesaurus file for minimizing redundancy (e.g., combining "family firms" and "family business") (Van-Eck & Waltman, 2023). In this phase, there were 113 mergers for traditional social capital and 145 mergers for online social capital.
- Keyword Extraction: From the recognized articles, keywords were extracted and classified. In the end, this step was the source for the identification of 34,963 keywords for traditional social capital and 7826 keywords for online social capital literature.
- Co-Occurrence Analysis: The VOSviewer program was utilized in generating the keyword co-occurrence lists. A co-word analysis (a text-mining technique) makes it feasible to exhibit the relationships among the keywords and establish the structural reasoning. This technique presents how many pairs of keywords commonly occurring in the database thus interportal their thematic links (Narong & Hallinger, 2023).
- Analysis of Data and Displaying the Results: The VOSviewer program was essential for the analyzing and interpreting the data received. By means of this software, the associations among the keywords were elucidated, verbal structures were created, and the prominent topics in each sample were easily revealed to the audience.

This structured procedure minimizes any possible conceptual and thematic misinterpretations of traditional social literature and online social capital literature and their critical part in comparative analysis by providing precious insights.

Data Collection Instruments (Web of Science)

WOS or Web of Science is a well-known database maintained by Clarivate Analytics that substantially affects the academic world. It includes high-quality, peer-reviewed scholarly outputs in various disciplines, such as social sciences, natural sciences, and humanities, making it a source of reputable and comprehensive material for data collection and analysis (Pranckutė, 2021). WOS is characterized by selective journal criteria applied strictly to include only reliable and significant journals. It has a database with over 21,000 titles and millions of records from various fields, making it one of the most extensive databases. The extensive range of WOS allows users to have access to a wide array of literature that in turn, helps in detailed data collection (Testa, 2009). One of the advantages of the WOS is that it provides a great search option. The researchers can make targeted searches with keywords, titles, abstracts, and citations that help them to restrict their dataset with a specific theme or bibliometric studies. Moreover, literature citation tools in WOS facilitate editing citation trends, indicating

prominent literature, and assessing the effect of the research (Mongeon & Paul-Hus, 2016). WOS also works with bibliometric software such as VOSviewer; it enables researchers to explore co-citing patterns, keyword networks, and publication trends. Through this way, WOS serves as a valuable gain for the scientometric studies, especially the ones focused on the comparative or the cross-disciplinary research (Van-Eck & Waltman, 2010). WOS is a comparative study tool that can also be used in data collection. It allows researchers all over the world to map problems, subjects, and gaps in various fields and in different areas, and thus makes it possible for them to do cross-field studies, for instance, discussing institutional theories and other concepts in global versus local settings. All in all, the WOS is one of the most complete dedicated platforms available for academic studies and for this reason is one of the absolute best. Its huge database, excellent searching tools, and accomplished analytical instruments all serve as irreplaceable reasons to be in the position they are in, i.e., the best scholarly data gathering and processing tool.

Data Analysis

The biggest achievements come from the systematic comparison and keyword analysis of the traditional social capital and online social capital literature. The network maps were obtained by the addition of the keywords that have been found in at least 5 studies only (Van-Eck & Waltman, 2010). The core part of this project was the application of VOSviewer software which happens to be a powerful and user-friendly tool for bibliometric analyses. VOSviewer made it possible to illustrate and visualize the connections and frequencies of keywords which in turn were heuristics offered to the researchers about the conceptual and structural patterns of the fields analyzed. The two tools primarily created network maps for the main keywords that were related to both the traditional social capital as well as online social capital. These diagrams made it easy to observe both the conceptual deviations and parallels between the two fields along with temporal, thematic, and structural characteristics (Leydesdorff & Rafols, 2009). The analysis also consisted of a straightforward comparative study of the most significant keywords identified for each idea.

Co-occurrence analysis is a bibliometric technique that uses keywords to identify the relations between terms within a specified set of publications. This technique reveals the thematic structure of a research field, lays out the key areas of focus, and brings to light the trends which are on the rise. VOSviewer, which is the software tool that is predominantly used in bibliometric mapping, is very suitable for performing co-occurrence analyses since it visualizes connections between terms in an intuitive and systematic manner (Van-Eck & Waltman, 2010). In this study, the co-occurrence analysis was primarily used as the main method for exploring the thematic and conceptual relationships within the datasets.

Keywords were included in the network maps if they appeared in at least five papers for OSC and 25 papers for SC, ensuring robust data for analysis (Van-Eck & Waltman, 2010). In bibliometric analyses using VOSviewer, selecting appropriate threshold values is crucial for balancing the inclusion of significant terms and managing data complexity. For example, setting a threshold ensures that only terms appearing a minimum number of times are included in the analysis, which helps in focusing on the most relevant keywords and relationships. This approach aligns with methodologies in similar studies, where thresholds are set to balance the inclusion of meaningful data and the clarity of the visualized networks (Martins et al., 2024).

By concentrating on the terms that are tied together in many instances in the titles, abstracts, and keywords of articles, we were able to map the intellectual structure of the research fields under investigation. The analysis was carried out for datasets sourced from WOS respectively to juxtapose the global views of social capital. The co-occurrence technique permitted the systematic differentiation of thematic clusters and the prominent concepts that formed the basis for the comparative evaluation. VOSviewer has the co-occurrence function which gives researchers the opportunity to evaluate how

frequently specific terms get together in the title, abstract, or keywords of the published research articles. By mapping these relationships, the tool creates network visualizations that display clusters of related terms. These clusters represent distinct thematic areas within the dataset that will help researchers to identify the major research topics, knowledge gaps, and propose future research areas (Perianes-Rodriguez et al., 2016). For instance, clusters produced through co-occurrence analysis would show whether the field in question is pre-occupied primarily with foundational concepts or if it drifts into applied and interdisciplinary topics. A factor that is a plus point for VOSviewer is its ability to accommodate extensive data sets, additional its strength in analyzing detailed bibliographic databases like WOS or Scopus. The software employs a unified distance-based mapping approach, consequently, terms that frequently appear together are kept nearby in the real-world network (Waltman et al., 2010). This gives a clear and understandable structure of relationships between terms and thus gives more value to the researchers who are conducting their analysis with themes or the comparison of the studies.

In conclusion, co-occurrence analysis using VOSviewer was the basis of this study and it facilitated the elaborate study of the thematic structures within the WOS datasets. By visualizing and quantifying the relationships between the terms, it provided insights into their development, concentration, and interconnections in each dataset. This approach was useful to make a solid comparison of the global perspectives on social capital an online social capital. Theory, presenting a full understanding of its thematic and contextual dimensions.

Findings

The findings obtained within the scope of the research are presented separately below, under the categories of SC and OSC.
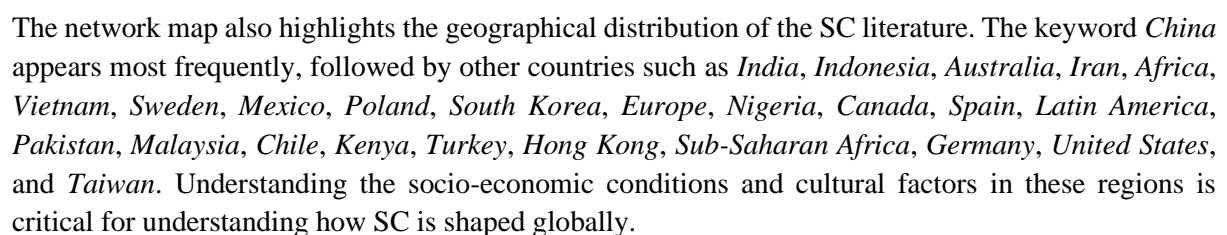
Social Capital

In this study, a search was conducted in the WOS database using the keyword "social capital." The research focused on English-language scientific articles published from the beginning of 2014 onwards. Based on these criteria, a total of 23,328 articles were identified. The sample for this study was composed of articles in which a keyword appeared at least 25 times. Within the universe of these articles, there were a total of 34,963 keywords, and the identified sample articles yielded 275 unique keywords.

A thorough literature-based review was conducted, resulting in the creation of network maps and keyword lists. First, based on the keyword lists obtained, network maps were generated. The first of these, the SC network map, is presented below.

The concepts associated with SC can be observed on the network map based on their proximity to the central concept and the clusters they form. This map highlights the terms related to "social capital" and illustrates the connections between them. At the center of the visualization is "social capital," and other key concepts are connected to it. This representation allows us to analyze prominent topics within the SC literature and the relationships between these topics.

One of the most notable connections is the strong link between "social capital" and "networking." This reflects the emphasis in the literature on the impact of SC on networking. Networking is one of the key dimensions of SC, and it is strongly linked to other sub-dimensions. Other significant connections include concepts such as *healthcare*, *trust*, *methodology*, *human capital*, *COVID-19*, *sustainability*, *entrepreneurship*, and *education*. These concepts form the core of the SC literature, frequently appearing in network analyses.

Figure 1

Social Capital Network

The network map also highlights the geographical distribution of the SC literature. The keyword *China* appears most frequently, followed by other countries such as *India*, *Indonesia*, *Australia*, *Iran*, *Africa*, *Vietnam*, *Sweden*, *Mexico*, *Poland*, *South Korea*, *Europe*, *Nigeria*, *Canada*, *Spain*, *Latin America*, *Pakistan*, *Malaysia*, *Chile*, *Kenya*, *Turkey*, *Hong Kong*, *Sub-Saharan Africa*, *Germany*, *United States*, and *Taiwan*. Understanding the socio-economic conditions and cultural factors in these regions is critical for understanding how SC is shaped globally.

In conclusion, this network map sheds light on the key concepts within the SC literature and their interconnections, emphasizing the need for further in-depth research on these topics. The findings provide valuable insights for future research on SC and contribute to enriching the existing literature. A more detailed analysis of the frequency of these concepts will be provided following the keyword table.

In this study, a keyword analysis was conducted to understand the prominent concepts in the SC literature and the relationships between these concepts. The analysis was based on data from articles published in English over the last 10 years in the WOS database. The aim was to identify the most frequently used keywords related to SC and examine their distribution across the literature.

Keyword analysis is a valuable tool for revealing the thematic structures of a particular field. This analysis of the SC field aims to identify the conceptual trends in the literature, which topics are emphasized more, and which concepts hold a central position. Additionally, it offers an assessment of areas within the SC literature that remain underexplored or insufficiently addressed.

Table 1

Social Capital Keyword List

Keywords	Occurrences	Total link strength	The percentage within all keywords
Networking	1175	2187	5%
Healthcare	799	1559	3%
Trust	710	1471	3%
Methodology	608	993	3%
Human capital	507	1035	2%
Covid-19	439	797	2%
Sustainability	437	683	2%
Entrepreneurship	406	753	2%
Education	383	697	2%
China	375	645	2%
Social media	343	635	1%
Adolescence	316	632	1%
Resilience	306	586	1%
Innovation	298	515	1%
Support	252	558	1%
Cultural capital	245	508	1%
Gender	242	533	1%
Well-being	242	524	1%
Community	220	483	1%
Disasters	205	409	1%
Participation	192	447	1%
Climate change	179	340	1%
Bridging social capital	174	393	1%
Bonding social capital	170	382	1%
Performance	170	306	1%
Knowledge sharing	162	245	1%
Family business	161	287	1%
Migration	159	303	1%
Corporate governance	157	249	1%
Intellectual capital	154	289	1%
Bourdieu	146	244	1%
Older adults	145	325	1%
Rural development	143	204	1%
Collective action	136	253	1%
Subjective well-Being	132	271	1%
Cohesion	131	321	1%
Employment	130	241	1%
Depression	121	313	1%
Vulnerability	121	228	1%
Inequality	120	272	1%
Life Satisfaction	118	270	1%

Note: The table above presents the top 1% of keywords that appear most frequently. The complete list of keywords is provided as an appendix.

In this study, the keywords that stand out in the SC literature, specifically those in the top 1% in terms of frequency, were presented to examine their prevalence and interrelations. The data reveal the distribution of SC-related keywords in the literature and the connections between these keywords.

According to Table 1, the keyword "networking" appears 1,175 times, making it the most frequently used term in the literature. Its prominence is further highlighted by its presence in 5.04% of all studies, underlining the importance of this concept in SC research. Following this, the keywords *healthcare* (799), *trust* (710), *methodology* (608), *human capital* (507), *COVID-19* (439), *sustainability* (437), *entrepreneurship* (406), *education* (383), *China* (375), *social media* (343), *adolescence* (316), *resilience* (306), *innovation* (298), *support* (252), *cultural capital* (245), *gender* (242), and *well-being* (242) were also closely associated with SC.

These keywords highlight the importance of networks in the context of SC. The high association of "networking" with SC, appearing 1,175 times, emphasizes the role of cultural and economic factors, as well as the importance of the context in which OSC processes occur.

These findings demonstrate the wide scope of research in the field of SC and show that social, economic, cultural, and regional dynamics are central to the literature. The prominence of these keywords indicates the focal points of SC research and highlights potential areas for future studies.

Online Social Capital

In this study, a search was conducted in the WOS database using the keyword "social capital." The research focused on scientific articles written in English and published since the beginning of 2014. Based on these criteria, a total of 19,784 articles were identified. The sample for this study consisted of articles in which a keyword appeared at least five times. Within this body of articles, there were a total of 4,926 keywords, and 266 keywords were identified from the sample articles.

As a result of the literature-based review, network maps and keyword lists were created. Based on the keyword lists obtained, the first of these network maps, the SC network map, is presented below.

As seen in the network map, the number of studies associated with the concept of OSC is significantly more limited compared to research on SC. The topics examined together with OSC are displayed on the network map according to their proximity to the central concept and the clusters they form.
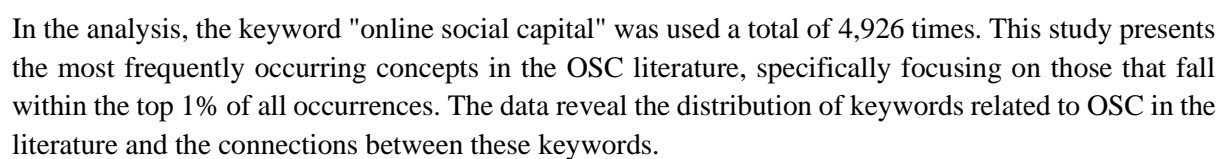
The network map above illustrates the key concepts in the literature surrounding OSC and their relationships. In this visualization, OSC is positioned at the center, with various connected concepts radiating from it. This depiction helps us understand the breadth of the OSC literature and the diverse research themes within this area.

One of the most prominent concepts in the network is SC . The strength of the relationship between SC, which is integral to the term OSC, is evident from the clustering shown on the map. Additionally, significant clusters include concepts such as *social media*, *networking*, *human resources*, and *COVID-19*. Detailed examinations of the frequency of these concepts will follow the keyword table.

This network map demonstrates the expansive range of the OSC literature and shows that research in this field spans various themes. The visualization also provides valuable insights into the core concepts and their relationships within the OSC literature.

In conclusion, this network map highlights the key themes emerging in OSC research and reveals the relationships between these themes, emphasizing the depth and breadth of the OSC literature. These findings offer significant insights for future research on OSC and contribute to the further development of the literature in this field.

Figure 2

Online Social Capital Network

In the analysis, the keyword "online social capital" was used a total of 4,926 times. This study presents the most frequently occurring concepts in the OSC literature, specifically focusing on those that fall within the top 1% of all occurrences. The data reveal the distribution of keywords related to OSC in the literature and the connections between these keywords.

According to **Table 1**, the term "social capital" was used 869 times, making it the most frequently associated concept with OSC, representing **18%** of all instances. This highlights the significance of the concept in the literature. Following this, other terms associated with OSC include *social media* (261 times, 5%), *COVID-19* (136 times, 5%), *networking* (102 times, 2%), *human resources* (94 times, 2%), *divide* (85 times, 2%), and *adolescence* (74 times, 2%).

These keywords emphasize the importance of networks within the context of OSC. The frequent association with terms like *social capital* and *social media* aligns with the etymological foundation of OSC. Additionally, the presence of *COVID-19* in the top three terms underscores the recent pandemic's impact on online processes and networks.

These findings suggest that research in the field of OSC focuses significantly on social, economic, cultural, and regional dynamics. The prominent keywords identified in the literature provide valuable insights into the central themes of OSC research and highlight potential areas for future investigation.

Table 2

Online Social Capital Keyword List

Keywords	Occurrences	Total link strength	The percentage within all keywords
Social capital	869	1437	18%
Social media	261	552	5%
Covid-19	136	239	3%
Networking	102	190	2%
Human resources	94	176	2%
Divide	85	186	2%
Adolescence	74	174	2%
Digitalisation	71	144	1%
Internet	67	172	1%
Methodology	60	119	1%
Facebook	60	160	1%
Education	60	147	1%
Trust	55	110	1%
Social networking	53	140	1%
Cultural capital	51	109	1%
Sustainability	49	83	1%
Entrepreneurship	49	91	1%
Healthcare	47	70	1%
Economy	47	62	1%
Well-being	44	112	1%
Digital transformation	44	72	1%
Support	40	85	1%
Bridging social capital	39	100	1%
Bonding social capital	38	108	1%
Innovation	37	69	1%
Digital technologies	36	64	1%
Crowdfunding	36	63	1%
Inequality	35	76	1%
Psychological capital	34	53	1%
Mental health	34	88	1%
China	34	45	1%
Community	32	45	1%
Knowledge sharing	31	52	1%
Twitter	29	58	1%
Civic engagement	29	74	1%
Intellectual capital	28	46	1%
Media	27	63	1%
Higher education	27	53	1%
Collaboration	27	56	1%
Technology	26	66	1%
Ict	25	57	1%
Bourdieu	25	77	1%

Source: Prepared by the author

Note: The table above presents the top 1% of the most frequently repeated keywords. The complete list is provided as an appendix.
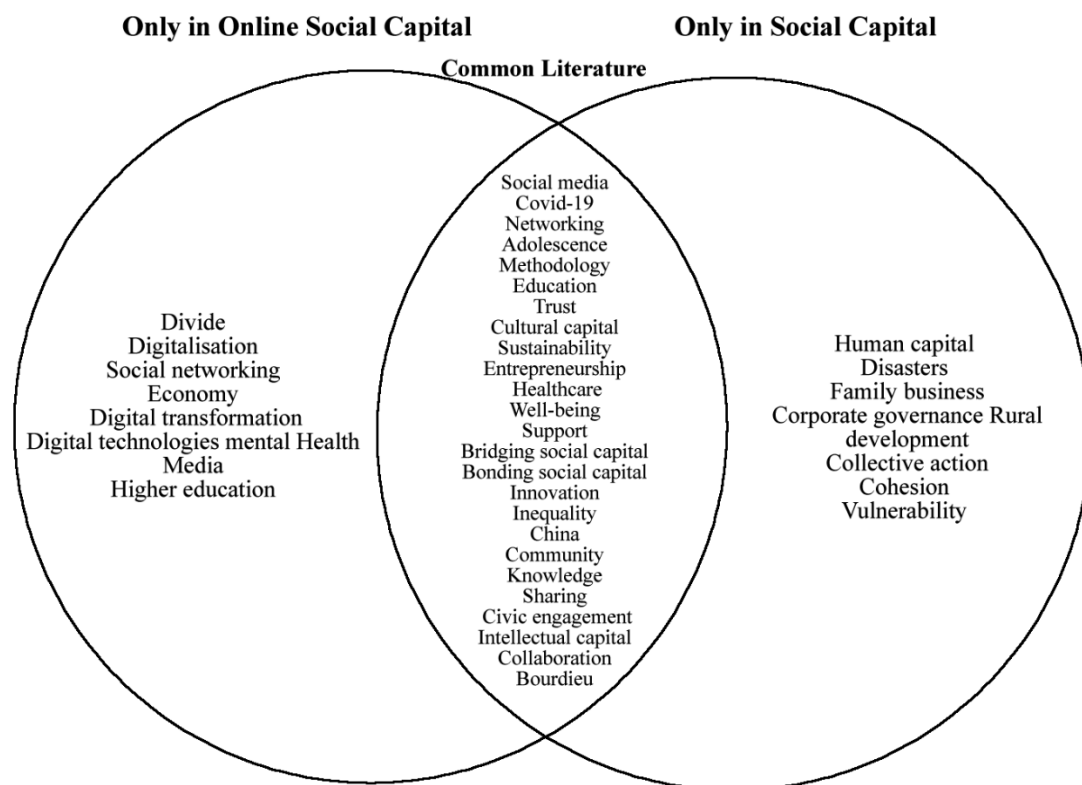
Analysis of the Differences Between Online Social Capital and Social Capital

In this study, a three-level comparison was conducted between the keywords used in the literature on OSC and traditional SC. This comparison was made among keywords that appear with at least 1% frequency for each concept. The purpose of this analysis was to understand how each concept is employed in different contexts, revealing the theoretical and practical areas where these keywords are concentrated.

By comparing these keywords, the study aimed to identify the distinctions and overlaps between the two forms of SC, helping to elucidate how OSC and SC are applied across various fields. This comparison also highlights the evolving nature of SC in the digital age, as OSC introduces new dimensions that were not prominent in the traditional SC literature.

Figure 3

Keyword Comparision

Only in Online Social Capital **Common Literature** **Only in Social Capital**

Only in Online Social Capital:
Divide
Digitalisation
Social networking
Economy
Digital transformation
Digital technologies mental Health
Media
Higher education

Common Literature:
Social media
Covid-19
Networking
Adolescence
Methodology
Education
Trust
Cultural capital
Sustainability
Entrepreneurship
Healthcare
Well-being
Support
Bridging social capital
Bonding social capital
Innovation
Inequality
China
Community
Knowledge
Sharing
Civic engagement
Intellectual capital
Collaboration
Bourdieu

Only in Social Capital:
Human capital
Disasters
Family business
Corporate governance Rural development
Collective action
Cohesion
Vulnerability

As shown in **Figure 3**, the analysis of differences between OSC and social capital (SC) was conducted across three levels:

First Level: The first comparison involved concepts that are used alongside OSC but are absent from SC. These terms primarily relate to digitalization and online platforms. Notable terms include *divide*, *digitalization*, *social networking*, *economy*, *digital transformation*, *digital technologies*, *mental health*, *media*, and *higher education*. These concepts frequently appear in the context of OSC but are less common in SC literature. They reflect the new dynamics of capital creation that arise through social ties and networks formed in digital environments. These terms emphasize the transformative impact of digitalization on social interactions and underscore the potential of online platforms to foster SC.

Second Level: This comparison focuses on concepts shared between both fields, reflecting the similarities between OSC and SC. The shared keywords include: *social media*, *COVID-19*, *networking*, *adolescence*, *methodology*, *education*, *trust*, *cultural capital*, *sustainability*, *entrepreneurship*, *healthcare*, *well-being*, *support*, *bridging social capital*, *bonding social capital*, *innovation*, *inequality*, *China*, *community*, *knowledge sharing*, *civic engagement*, *intellectual capital*, *collaboration*, and *Bourdieu*. These terms capture fundamental concepts such as social relationships, trust, community ties, and collaboration. Especially important are *bridging social capital* and *bonding social capital*, which explain how social bonds are formed and maintained in both contexts.

Third Level: The final comparison examines concepts present in SC but not in OSC. These terms are primarily found in traditional SC theory and are associated with community-based relationships and face-to-face interactions. These terms include: *human capital*, *disasters*, *family business*, *corporate governance*, *rural development*, *collective action*, *cohesion*, and *vulnerability*. These concepts highlight the application of SC in the physical world and its impact on communities. Notably, terms like *human capital* and *corporate governance* are key to understanding the role of SC in economic development and governance processes.

This three-level comparison clearly illustrates the differences and overlaps between OSC and SC. While OSC, driven by digitalization, represents a dynamic, technology-supported network structure, SC is rooted in local communities, face-to-face interactions, and long-term relationships. This analysis provides significant insights into how each concept is shaped through different social ties and networks.

Conclusion

This study thoroughly examines the conceptual and thematic differences between SC and OSC by comparing the relevant literature in both fields. In particular, several key concepts were identified as unique to the OSC context, providing critical insights into the transformative effects of the digital age on social relationships. Terms such as *divide*, *digitalisation*, *social networking*, *economy*, *digital transformation*, *digital technologies*, *mental health*, *media*, and *higher education* highlight how OSC diverges from traditional SC.

The term *divide* reflects the inequalities and disparities in access to technology and digital resources, a significant issue in OSC that does not appear in traditional SC discussions (DiMaggio & Hargittai, 2001). OSC requires individuals to engage in social networks via digital platforms, but the digital divide can restrict such participation (Dijk van Jan, 2012; Lythreatis et al., 2022). This highlights how a lack of access to digital technologies can negatively impact one's ability to build OSC.

Both *digitalisation* and *digital transformation* explain the impact of technological advancements on how social bonds and relationships are formed. Traditional SC builds through face-to-face interactions and physical networks, whereas digitalisation shifts SC creation to digital platforms (Castells, 2011). This transformation removes barriers of time and space, allowing individuals to participate in social networks across different geographies.

Social networking refers to the formation of broad networks through social media and other digital platforms. This is particularly significant for OSC, as platforms like social media enable individuals to form weak ties and quickly access information (Ellison et al., 2007). In contrast, traditional SC is more reliant on strong ties and local communities, while online social networks foster broader and more diverse connections (Granovetter, 1973).

The terms *economy* and *digital technologies* further illustrate the economic aspect of digitalisation and the role of technology in shaping SC. While traditional SC operates within physical business networks

and local economies, OSC facilitates access to economic opportunities through digital platforms (Tapscott & Williams, 2008).

Mental health and *media* emphasize the psychological and social effects of interactions in digital environments. Continuous connection in digital spaces, particularly on social media, can have both positive and negative effects on mental health (Twenge et al., 2018). While traditional SC relies more on face-to-face support, OSC includes the ability to receive support from digital communities.

Finally, *higher education* reflects the importance of digital educational platforms in OSC. With the rise of digital technologies, education has moved online, creating new dynamics in the formation of SC (Selwyn, 2014).

Each of these concepts illustrates how OSC differs from traditional SC. The expansion of networks, rapid access to information, and the shift of interactions to virtual environments define the unique dynamics of OSC. Traditional SC, by contrast, is more reliant on local, physical bonds, while OSC supports a broader network structure and rapid information sharing via digital platforms. In this regard, OSC plays a crucial role in understanding the new social relationships and capital formation processes brought by the digital age.

The study also explored terms frequently used in the traditional SC context but less so in the OSC domain. These terms, including *human capital*, *disasters*, *family business*, *corporate governance*, *rural development*, *collective action*, *cohesion*, and *vulnerability*, tend to focus on physical, local, and long-term social bonds. They are more common in discussions of traditional SC because they are tied to community-based, economic, and governance processes.

For instance, *human capital* plays a vital role in social and economic development, as social networks help individuals convert their human capital into economic and social benefits (Coleman, 1988). However, this concept appears less frequently in the OSC context, where weak ties and digital skills are often more relevant (Williams, 2007).

Disasters highlight the role of traditional SC in fostering community solidarity and cooperation during crises (Aldrich & Meyer, 2015). In OSC, the potential for physical cooperation and support in disaster scenarios is limited, as digital platforms are less suited to managing such situations effectively.

Family business and *corporate governance* illustrate how SC influences economic development. In family businesses, SC strengthens through trust and cooperation among family members, while in corporate governance, it is supported by trust between leaders and employees. These concepts are less emphasized in OSC, which tends to build on weaker and more transient ties (Nahapiet & Ghoshal, 1998).

Rural development is another concept that demonstrates the strong impact of community-based SC. SC contributes to rural development processes by supporting collaboration and knowledge sharing among communities, which helps boost local economies (Woolcock, 2001). However, SC in the context of rural development is often based on physical communities, and OSC tends to be less effective in these local bonds. Since OSC is typically built on weak ties that operate within a broader digital network, it has a more limited role in the physical solidarity and resource-sharing processes that are essential for rural development.

Collective action and *cohesion* are concepts that explain the capacity of communities to act collectively and maintain unity within social structures. Collective action holds an important place in SC theory because it enables communities to come together for common goals (Ostrom, 2000). Cohesion refers to the strengthening of social ties during these cooperation processes. In the context of traditional SC, these concepts are more often associated with physical communities and face-to-face interactions, while

in OSC, there is less emphasis on such strong cooperation and cohesion processes. This is because the weak ties formed on digital platforms are generally short-term and temporary.

Vulnerability refers to the susceptibility of individuals or communities to social, economic, and environmental threats. SC plays a critical role in increasing the resilience of vulnerable communities (Adger, 2003). However, in the context of OSC, the processes of coping with such vulnerabilities are more limited. Digital platforms may not effectively provide sufficient support to communities, especially in situations requiring access to physical resources. Traditional SC, on the other hand, offers a stronger mechanism of solidarity and support in this regard.

In conclusion, these concepts are more closely related to physical, local, and long-term social bonds and are less emphasized in the context of OSC. OSC, while creating fast and broad social networks through digital platforms, is more rooted in strong community ties and face-to-face interactions in traditional SC. This shows that social bonds in the digital world do not align with traditional SC concepts and have a different structure.

This study has highlighted the divergent aspects of OSC and traditional SC. Although OSC is conceptually rooted in traditional SC, it has evolved into a distinct structure within the context of the digital world and social processes. Digital networks and online platforms constitute the core elements of OSC in terms of access to information and the establishment and expansion of social ties. While traditional SC relies more on local, face-to-face interactions, OSC operates through global-scale networks (Yang & Hanasono, 2023). This study emphasizes the unique structure of OSC and demonstrates its critical role in understanding the rapidly changing dynamics of the digital age.

In conclusion, the widespread adoption of digital technologies has significantly transformed the structure of SC. OSC enables individuals to expand their social networks through digital platforms, while also transcending geographical boundaries in a way that traditional SC cannot, offering broader access. This phenomenon reveals new pathways for building SC, particularly in areas such as access to economic opportunities and political participation (Bian & Zhang, 2023).

Traditional SC remains more tied to the physical world and is defined by strong community bonds. However, with the rapid spread of digitization, it has become inevitable for physical social bonds to also be supported by digital platforms. The integrated structure of OSC and traditional SC plays a crucial role in solidarity and cooperation processes within communities, especially during crises.

The findings of this study offer many potential areas for future research. Issues such as the digital divide and the impact of OSC on social inequalities require deeper investigation. Additionally, the transformative effects of digital technologies on social participation and political processes are important topics for further research. Future studies are likely to provide a deeper understanding of how social relationships evolve in digital environments by examining the unique dynamics of OSC. Specifically, the examination of digital divides, the societal impacts of digitization, and power dynamics within digital networks will be crucial for exploring the significance of this concept in the digitization process. OSC goes beyond traditional SC and has the potential to illuminate new challenges and opportunities in the digital world.

The present study is an extensive report that concentrates on the distinction between online social capital (OSC) and traditional social capital (SC) in their theoretical and practical contexts. While on the one hand, the former provides quick and virtually no limits socialization through virtual platforms, on the other hand, the latter is the only way to go with the strong, trustful ties in physical localities. This separation of the two has far-reaching consequences in many areas, specifically in crisis management, economic resilience, and political engagement.

SC, which depends on strong relations and local trust, has long been instrumental in dealing with disasters and other emergency situations. Besides, those communities that have high SC, usually, work together more collectively to increase the resource-sharing, cooperating, and mutual aides of their people during some crises. At the same time, the growing prevalence of OSC also brings to the forefront the question of whether digital platforms can not only add to but also take the place of these traditional networks. There are new avenues for research to look into such as the role of digital communities in disaster relief and whether OSC can balance the loss of face-to-face trust networks in high-risk environments through their functioning.

As opposed to this, the economics and business environment might turn out to be more advantageous with OSC, especially in contexts that are highly affected by the issue of information imbalance and uncertainty in the building of trust. The old SC that is mostly linked with the interpersonal and long-term relation-ships, has a fundamental role in economic collaboration. Interestingly, the internet and gig economies that come with the digital economy make use of OSC by providing the alternative trust of algorithmic trust, reputation systems, and decentralization networks. The future studies should scrutinize whether OSC enhances the decrease in transaction costs or rather it waters the ground for the emergence of new vulnerabilities, particularly in the instances where a weak tie is the key decision-making level.

Furthermore, political and civic engagement is another most relevant and contentious aspect. While SC has been seen traditionally as a way to create grassroots activism, community organizing, and democratic participation with OSC creating a channel for mass organization through digital activism, online petitions, and viral movements. Not weak ties in OSC are the only reason for short term and a lack of long run collective action but also they are one of the worries about the consequences on society and environmental issues of ethical dilemmas in the future. The future studies are to provide answers to the questions about whether OSC will be the kind of extra power for civic engagement and democratic participation or on the contrary will play the negative role in them.

Historically considered, rather than a theoretical friction, the birth of OSC ought to be seen as one of the parts making up the movement of social capital theory's evolutionary path. The same way SC was revolutionized by the decentralizing of sharing from the towns' social bonds to the urban ones, the current context where digital technology is sorting out various social capital forms is both a gift and a burden. The questions of whether OSC represents a radical overhaul of social capital theory, or serves as merely an adaptive extension of its original form will be tackled in future research.

In the final analysis, the present work underscores the importance of undertaking more research on how SC and OSC function, either in conjunction or antagonistically, in the different settings of society. Therefore, the recognition of this shift will be a valuable asset for policy formulation, economic infrastructure development, and society planning as digital networking is continuously reshaping social relationships with a special emphasis on the current day era.

This study has underlined the most important differences and similarities that are between online social capital (OSC) and traditional social capital (SC). Nonetheless, it is important first to talk about the reasons for the differences they are contextualizing which in turn can help to clarify the differences.

For example, the close relationship that exists between SC and "networking" and "trust" is due to the inherent reality of traditional social capital. SC is the product of long-term, trust-based relationships that make it easier for people to cooperate and to take action together in a given community (Putnam, 2000). The trust is so much involved here in the building of social networks by people which then, in turn, results in both social networks' invariability (Coleman, 1988). Networking, which is the principal

part of SC, provides people with access to social resources, thereby creating conditions for both economic and social development (Bourdieu, 1986). The continuous presence of these concepts in SC books comes in line with the previous findings demonstrating the significance of interpersonal collaboration in the formation of dense social networks (Granovetter, 1973).

However, OSC's association with "divide" and "digital transformation" also mirrors the transformation of structures carried out due to digitalization. The digital divide, which is the mechanism bringing on such conditions, would refer to the dissimilarities in the ways people use digital technology thus might affect machinery utilization of OSC (DiMaggio & Hargittai, 2001). The appearance of this keyword in the OSC-related literature indicates concerns over the imbalance of technological resources and access (Dijk van Jan, 2012). Like this, the digital transformation that we experience has shifted from normal, human-to-human, to the virtual, technology-mediated social connections (Kandampully et al., 2022). Thus this development has completely changed the ways people meet and build connections, now they can do it in a more distant but weaker manner (Williams, 2006).

The Covid-19 pandemic scenario on the changing process from SC to OSC should put in the context about this again another crucial point. Covid-19 was the reason for the extraordinary decrease in the physical social interactions that led the way to the digital platforms as the primary social networking area (Barrios et al., 2021). The results of the pandemic have been observed that becasue of the social media and digital communities these platforms have been used the most to keep the social relations, to exchange information and to support trade and industry (Borgonovi & Andrieu, 2020). But this pathway has its own staff as well, for example, the mentioned of the weakening of Trust plus, Social Capital and the long-term effect it will do on social nets (Nowland et al., 2018). Despite the fact that OSC was the one that was doing pretty much great in problems when people were not able to go out and touch different things, it is doubted whether it can acquire enduring social capital at the same level as traditional SC (Ellison et al., 2007) .

To cut the story short, the regional and cultural issues have had an encouraging role in the rising of OSC. The impact of digitalization on social capital is different in different societies because they are different in terms of internet access, digital literacy, and culture which decides the mode of online communication. In the West, OSC is often linked to a professional network and economic opportunities, while in Asia, it is usually more about community support and social cohesion (Kim & Fernandez, 2023). In addition, in the case of the less developing countries, the digital divide can hinder the OSC expansion, whereas in the web developed areas it is the digital media which as secondary instrument deliver the OSC (Lythreatis et al., 2022).

The findings lead to the aforementioned point of view for the transformation of social capital during the digital age. Further, research should also deal with how digitalization restructures societies such as OSC being a complementary and ancillary or a different kind of concept apart from SC. Also, the probing be that no measure on how long the OSC will influence on trust, social cohesion, and economic participation will prove it a main societal aspect.

The distinction between social capital (SC) and online social capital (OSC) has often been framed as a binary opposition, suggesting that SC belongs to traditional, trust-based networks while OSC is a digitally mediated construct that redefines social interaction. However, findings from this study challenge the notion that these two forms of social capital are fundamentally separate. Instead, the evidence suggests that SC and OSC exist along a fluid continuum, where digitalization has reconfigured rather than replaced traditional social capital.

Rather than treating OSC as an entirely new paradigm, it is more accurate to consider it as an adaptive extension of SC, shaped by the affordances of digital technologies. The emergence of digital platforms

has expanded the reach of social networks, enabling weaker but more diverse connections, faster information diffusion, and new forms of economic and civic participation. Yet, at its core, OSC retains key elements of traditional SC—trust, reciprocity, and shared norms—albeit manifested in different modalities.

Importantly, OSC does not exist in a vacuum. The strength of OSC is often dependent on pre-existing SC structures. For instance, offline relationships frequently serve as the foundation for online interactions, while online networks can reinforce or extend trust built in physical communities. This interdependence suggests that rather than replacing SC, OSC functions as a complementary mechanism that can either strengthen or, in some cases, weaken traditional social bonds, depending on how it is utilized.

Given this interdependent relationship, future research should move away from static categorizations of SC and OSC and instead investigate how they interact, merge, and transform within different contexts. Instead of treating SC and OSC as separate domains, future studies should develop integrated models that examine the conditions under which digital interactions enhance or erode traditional social capital. Longitudinal studies are needed to examine whether and how individuals shift between SC and OSC across different life stages, socio-economic conditions, or technological advancements. The role of digital platforms in shaping OSC also deserves further scrutiny. How do platform algorithms, AI-driven content curation, and digital gatekeeping affect the formation and maintenance of online social capital? Studies should analyze whether algorithmic influence enhances social cohesion or exacerbates echo chambers and digital divides.

The ways in which SC and OSC interact are not uniform across societies. Comparative research is needed to explore how cultural norms, political structures, and economic conditions shape the balance between traditional and online social capital. Are collectivist cultures more resistant to OSC-driven social transformations than individualist societies? Current research often focuses on the quantity of connections in OSC, but future studies should develop metrics to assess the depth and quality of online social ties. How does online trust compare to offline trust in long-term relationship building? Can weak digital ties transition into strong, meaningful social capital over time?

By shifting the research focus from whether SC and OSC are distinct to understanding how they interact and evolve, scholars can develop a more nuanced and dynamic framework for analyzing social capital in the digital age. Rather than viewing OSC as a disruptive force that undermines SC, future research should explore the conditions under which digitalization enhances, complements, or challenges traditional forms of social capital.

References

Adger, W. N. (2003). Social capital, collective action, and adaptation to climate change. *Economic Geography*, *79*(4), 387–404.

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioral Scientist*, *59*(2), 254–269.

Barrios, J. M., Benmelech, E., Hochberg, Y. V, Sapienza, P., & Zingales, L. (2021). Civic capital and social distancing during the Covid-19 pandemic. *Journal of Public Economics*, *193*, 104310.

Bezanson, K. (2006). Gender and the limits of social capital. *Canadian Review of Sociology/Revue Canadienne de Sociologie*, *43*(4), 427–443.

Bian, Y., & Zhang, L. (2023). Economy and social capital, markets and social networks. In M. Zafirovski (Ed.), *The Routledge International Handbook of Economic Sociology* (pp. 392–406). Routledge.

Borgonovi, F., & Andrieu, E. (2020). Bowling together by bowling alone: Social capital and Covid-19. *Social Science & Medicine*, *265*(1), 113501. https://doi.org/10.1016/j.socscimed.2020.113501

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). Greenwood press.

Bryman, A., & Cramer, D. (2012). *Quantitative data analysis with IBM SPSS 17, 18 & 19: A guide for social scientists*. Routledge.

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. *Conference on Human Factors in Computing Systems - Proceedings*, *3*, 1909–1912. https://doi.org/10.1145/1753326.1753613

Castells, M. (2011). *The rise of the network society*. John Wiley & Sons.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*(1), S95–S120. https://doi.org/10.1086/228943

Dasgupta, P., & Serageldin, I. (2000). *Social capital: A multifaceted perspective*. World Bank Publications.

Dijk van Jan, A. G. M. (2012). *The network society. Social aspects of new media*. SAGE Publications.

DiMaggio, P., & Hargittai, E. (2001). From the digital divide to digital inequality: Studying Internet use as penetration increases. In *Working Paper 15*. Center for Arts and Cultural Policy Studies, Woodrow Wilson School, Princeton University.

Dolfsma, W., & Verburg, R. (2005). *Bridging structure and agency: Processes of institutional change*. ERIM Report Series Reference No. ERS-2005-064-ORG.

Ehsan, A. M., & De Silva, M. J. (2015). Social capital and common mental disorder: A systematic review. *J Epidemiol Community Health*, *69*(10), 1021–1028.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168.

Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB Journal*, *22*(2), 338–342.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, *78*(6), 1360–1380.

Granovetter, M., & Swedberg, R. (2018). The sociology of economic life, Third edition. *The Sociology of Economic Life*, *1*(3), 1–543.

Grootaert, C., & Van Bastelaer, T. (2002). *The role of social capital in development: An empirical assessment*. Cambridge University Press.

Hampton, K. N. (2003). Grieving for a lost network: Collective action in a wired suburb. *Information Society*, *19*(5), 417–428.

Hampton, K. N., Goulet, L. S., Rainie, L., & Purcell, K. (2011). *Social networking sites and our lives* (Vol. 1). Pew Internet & American Life Project Washington, DC.

Haythornthwaite, C. (2002). Strong, weak, and latent ties and the impact of new media. *Information Society*, *18*(5), 385–401.

Kandampully, J., Bilgihan, A., & Li, D. K. (2022). Unifying technology and people: revisiting service in a digitally transformed world. *The Service Industries Journal*, *42*(1–2), 21–41.

Kim, M., & Fernandez, R. M. (2023). What makes weak ties strong? *Annual Review of Sociology*, *49*(1), 177–193.

Krippendorff, K. (1980). *Validity in content analysis*. In E. Mochmann (Ed.), Computerstrategien für die Kommunikationsanalyse (pp. 69-112). Campus-Verlag.

Lautier, M. (2016). Social cohesion, economic resilience, and long-term growth in Southeast Asia and developing countries. In *ASEAN Economic Community: A Model for Asia-wide Regional Integration?* (pp. 243–265). Springer.

Leydesdorff, L., & Rafols, I. (2009). A global map of science based on the ISI subject categories. *Journal of the American Society for Information Science and Technology*, *60*(2), 348–362.

Li, Y., & Chen, W. (2023). Acquisition and utilization of Chinese peasant e-entrepreneurs' online social capital: The moderating effect of offline social capital. *Sustainability*, *15*(7), 6154.

Lythreatis, S., Singh, S. K., & El-Kassar, A.-N. (2022). The digital divide: A review and future research agenda. *Technological Forecasting and Social Change*, *175*(1), 121359.

Martins, J., Gonçalves, R., & Branco, F. (2024). A bibliometric analysis and visualization of e-learning adoption using VOSviewer. *Universal Access in the Information Society*, *23*(3), 1177–1191.

McGuirk, P. M., & Dowling, R. (2007). Understanding master-planned estates in Australian cities: a framework for research. *Urban Policy and Research*, *25*(1), 21–38.

Mishchuk, H., Bilan, Y., Androniceanu, A., & Krol, V. (2023). Social capital: Evaluating its roles in competitiveness and ensuring human development. *Journal of Competitiveness*, *15*(2).

Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, *106*, 213–228.

Mumcu, A. Y. (2021). Girişimcilikte Finansal Kaynaklar. In G. Eser (Ed.), *Güncel Bir Yaklaşımla Girişimcilik* (1st ed., pp. 305–324). Nobel.

Mumcu, A. Y. (2022). Sosyal sermaye kuramı: Son Dönem inceleme alanları. In A. Y. Ataman, Göksel; Mumcu (Ed.), *Örgüt Kuramlarında Güncel Yaklaşımlar* (pp. 331–352). Nobel.

Mumcu, A. Y., Ataman, G., & Konuk, H. (2023). Çevrimiçi Sosyal Sermaye Ölçeğini Türkiye'de uyarlama çalışması. *Öneri*, *18*(60), 543–560.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, *23*(2), 119–158.

Narong, D. K., & Hallinger, P. (2023). A keyword co-occurrence analysis of research on service learning: Conceptual foci and emerging research trends. *Education Sciences*, *13*(4), 339.

Norris, P. (2002). The bridging and bonding role of online communities. *Society Online: The Internet in Context*, *7*(3), 3–13. https://doi.org/10.4135/9781452229560.n2

Nowland, R., Necka, E. A., & Cacioppo, J. T. (2018). Loneliness and social internet use: pathways to reconnection in a digital world? *Perspectives on Psychological Science*, *13*(1), 70–87.

Ohara, M. R., Suparwata, D. O., & Rijal, S. (2024). Revolutionary marketing strategy: Optimising social media utilisation as an effective tool for MSMEs in the digital age. *Journal of Contemporary Administration and Management*, *2*(1), 313–318.

Ostrom, E. (2000). Collective action and the evolution of social norms. *Journal of Economic Perspectives*, *14*(3), 137–158.

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage publications.

Perianes-Rodriguez, A., Waltman, L., & Van-Eck, N.-J. (2016). Constructing bibliometric networks: A comparison between full and fractional counting. *Journal of Informetrics*, *10*(4), 1178–1195.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Reviews*, *24*(1), 53–76.

Pranckutė, R. (2021). Web of Science (WoS) and Scopus: The titans of bibliographic information in today's academic world. *Publications*, *9*(1), 12.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community* (1st ed.). Touchstone Books/Simon & Schuster.

Putnam, R. D., Feldstein, L., & Cohen, D. J. (2004). *Better together: Restoring the American community*. Simon and Schuster.

Selwyn, N. (2014). *Digital technology and the contemporary university: Degrees of digitization*. Routledge.

Skoric, M. M., Ying, D., & Ng, Y. (2009). Bowling online, not alone: Online social capital and political participation in Singapore. *Journal of Computer-Mediated Communication*, *14*(2), 414–433. https://doi.org/10.1111/j.1083-6101.2009.01447.x

Tapscott, D., & Williams, A. D. (2008). *Wikinomics: How mass collaboration changes everything*. Penguin.

Testa, J. (2009). The Thomson Reuters journal selection process. *Transnational Corporations Review*, *1*(4), 59–66.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207–222.

Trippl, M., Fastenrath, S., & Isaksen, A. (2024). Rethinking regional economic resilience: Preconditions and processes shaping transformative resilience. *European Urban and Regional Studies*, *31*(2), 101–115.

Tufekci, Z. (2017). *Twitter and tear gas: The power and fragility of networked protest*. Yale University Press.

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3–17.

Van-Eck, N.-J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538.

Van-Eck, N.-J., & Waltman, L. (2023). VOSviewer manual. In *VOSviewer Manual* (Vol. 1). Universiteit Leiden. https://www.vosviewer.com/documentation/Manual_VOSviewer_1.6.20.pdf

Visser, M., Van-Eck, N.-J., & Waltman, L. (2021). Large-scale comparison of bibliographic data sources: Scopus, Web of Science, Dimensions, Crossref, and Microsoft Academic. *Quantitative Science Studies*, *2*(1), 20–41.

Waltman, L., Van-Eck, N.-J., & Noyons, E. C. M. (2010). A unified approach to mapping and clustering of bibliometric networks. *Journal of Informetrics*, *4*(4), 629–635.

Wellman, B., Salaff, J., Dimitrova, D., Garton, L., Gulia, M., & Haythornthwaite, C. (1996). Computer networks as social networks: Collaborative work, telework, and virtual community. *Knowledge and Communities*, *22*(1), 179–208. https://doi.org/10.4324/9780080509785-17

White, M. D., Marsh, E. E., Marsh, E. E., & White, M. D. (2006). Content analysis: A flexible methodology. *Library Trends*, *55*(1), 22–45.

Williams, D. (2006). On and off the 'Net: Scales for Social Capital in an Online Era. *Journal of Computer-Mediated Communication*, *11*(2), 593–628. https://doi.org/10.1111/j.1083-6101.2006.00029.x

Williams, D. (2007). The impact of time online: Social capital and cyberbalkanization. *Cyberpsychology and Behavior*, *10*(3), 398–406. https://doi.org/10.1089/cpb.2006.9939

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, *2*(1), 1–35.

Xiao, J. (2024). The digitalization dialectic: A Critical analysis of technology's role in cultural formation and social change. *Advances in Social Behavior Research*, *6*, 38–42.

Yang, F., & Hanasono, L. K. (2023). Coping with racial discrimination with collective power: How does bonding and bridging social capital help online and offline? In C. Onwumechili (Ed.), *Ethnicities* (pp. 115–134). Routledge.

Yang, F., Luo, C., & Pan, L. (2024). Do digitalization and intellectual capital drive sustainable open innovation of natural resources sector? Evidence from China. *Resources Policy*, *88*, 104345.

Zhu, J., & Liu, W. (2020). A tale of two databases: the use of Web of Science and Scopus in academic papers. *Scientometrics*, *123*(1), 321–335.