The interplay of social capital, digital transformation and sustainability for designing international marketing strategies: a systematic literature review

The Interplay of Social Capital, Digital Transformation, and Sustainability for Designing International Marketing Strategies: A Systematic Literature Review

Abstract

Purpose – This study systematically reviews the current literature on the role of social capital in adopting digital technologies and achieving sustainability. The current investigation identifies key insights across social capital, digital transformation, and sustainability paradigms and highlights how these findings guide business organisations in designing international marketing strategies.

Design/methodology/approach – A systematic literature review (SLR) was conducted using the PRISMA protocol. 92 peer-reviewed articles out of 403 manuscripts based on Scopus and Web of Science (WoS) databases search from 1980 to 2025 were identified and selected for conducting thematic analysis and proposing a theoretical framework.

Findings – The analysis of this SLR revealed three main themes: (1) social capital for digital transformation, (2) social capital for achieving sustainability, and (3) social capital for both digital transformation and achieving sustainability. Several sub-themes were also synthesised under each theme. Key findings include how social capital permits sustained customer-oriented culture, inter-organisational trust, and AI-based social networks—critical aspects for designing international market strategies. A potential theoretical framework is also proposed to explain how social capital influences adopting digital technologies and achieving sustainability goals, and how firms can entrench these identified attributes into sustained knowledge management, improved strategic positioning, and market-oriented innovation.

Originality/value – This is the first study to propose a theoretical framework that connects social capital to digital transformation and sustainability in the context of international marketing. It offers practical insights for firms seeking to integrate social capital, digital technologies, and sustainability initiatives into global strategy development.

Keywords: Social capital, digital transformation, sustainability, international marketing strategies, systematic literature review.

Introduction

Sustainability and digital transformation are considered essential drivers of progress in the global economy and emerging business landscapes (Guandalini, 2022; Pappas et al., 2018; Zahoor et al., 2025). These paradigms influence operational efficiency, environmental performance, and strategic decision-making across diversified industries and international markets (El Hilali et al., 2020; Gomez-Trujillo & Gonzalez-Perez, 2022). In today's digitally connected world, firms leverage digital transformation not only to improve operations but also to strengthen their international presence, optimise global supply chains, and enhance cross-border trade (George & Schillebeeckx, 2022; Oparaocha, 2016).

Digital transformation includes the adoption of technologies such as artificial intelligence (AI), big data, cloud computing, Internet of Things (IoT), and automation. These digital initiatives help diverse business markets to optimise resource usage, improve sustainability, and support corporate decision-making (Khalid et al., 2025; Sascha et al., 2021; Vial, 2019). For example, AI-driven initiative helps firms to forecast future trends for

streamlining their supply chains (Richey et al., 2023), while IoT provides energy-conserving measures that enhance awareness amongst the workforce for better achieving environmental sustainability (Chaowei et al., 2017; Sadeeq et al., 2021).

Digitalisation is also reshaping how firms pursue their sustainability commitments in global markets (Gomez-Trujillo & Gonzalez-Perez, 2022; Guandalini, 2022). Currently, businesses aim to ensure stabilise growth and improve environmental sustainability by integrating environmental, social, and governance (ESG) principles into their international strategies (Adıgüzel, 2020; Taherdangkoo et al., 2017). This alignment helps the firms to enhance their credibility and positioning as responsible global leaders. The synergy between technology and sustainability-driven initiatives allows businesses to improve operational performance and reduce ecological impact in diverse markets (George & Schillebeeckx, 2022; Usman et al., 2025). For example, cutting-edge technologies such as AI, big data, and IoT facilitate firms to improve their sustainability competitiveness by optimising resource usage, mitigating waste generation, and meeting environmental regulatory compliance (Javaid et al., 2022; Matin et al., 2023). The perceived benefits of these advanced initiatives foster to design eco-friendly products, enhance sustainable growth, and improve social connectivity in global markets (Gomez-Trujillo & Gonzalez-Perez, 2022; Guandalini, 2022).

Within this context, social capital—defined by networks, trust, and shared values plays an increasingly important role (Kim, 2018) in navigating the operational complexities and improving sustainability in diverse international markets (Echebarria & Barrutia, 2013; Oparaocha, 2016). For example, a strong social capital encourages businesses to adopt innovation, improve organisational collaborations, and achieve sustainability in the transforming global context (Danchev, 2006; Zhang et al., 2021).

Social capital also permits the business markets to adopt new technologies to improve their credibility and enhance cooperation amongst diversified stakeholders (Daskalopoulos & Machek, 2024; Tran et al., 2024). However, the role of social capital in adopting digital technologies and improving sustainability remains fragmented in the current literature. Existing studies have mainly examined social capital, sustainability, and digital transformation in isolation, each with a discrete scope and areas of research focus. However, the current literature lacks in providing a comprehensive integrated approach for implementing these three paradigms together and reflecting a little on their potential interconnectedness in an international marketing context. This study addresses the existing literature gaps by providing a comprehensive review and proposing a theoretical framework on social capital, digital transformation, and sustainability-led international market strategies.

Prior research examines the impact of social capital on operational and environmental performance, business growth, and organisational optimisation (Echebarria & Barrutia, 2013; Oparaocha, 2016). Additionally, some studies focus on the role of social capital in adopting digital technologies and managing innovation ecosystems (Alcaide Lozano et al., 2019; Bandera & Thomas, 2019) and a few articles focus on exploring the impact of social capital on sustainable entrepreneurial business frameworks and green innovation (Selman, 2001; Theodoraki et al., 2018). Despite growing scholarly attention on these emerging concepts, no existing systematic review offers an integrated theoretical framework to explore the interplay of social capital, digital transformation, and sustainability for designing international marketing strategies.

This study integrates social capital, digital transformation, and sustainability to advance international marketing theory and practice. Social capital assists international firms in localising digital strategies, building trust-based global relationships (Pigg & Crank, 2004), and linking sustainability efforts with diverse market expectations (Roxas, 2021). This interplay addresses the key priorities of the organisations to design international marketing strategies by supporting responsible innovation, promoting market legitimacy, and creating global value. By examining these paradigms, the current study provides an integrated framework for firms seeking competitive advantage through socially embedded, digitally enabled, and sustainability-driven strategies in international markets.

Against this background, this study addresses the following research questions:

1. How does social capital drive digital transformation and enable organisations to achieve sustainability goals?
2. How can the themes from the SLR be used to develop a framework that explains the intersection of social capital, digital transformation, and sustainability?
3. What are the key findings in each of these three domains?

To answer these questions, we conduct an SLR that integrates the existing literature from various disciplines. The review synthesises major themes and sub-themes, maps research trends, and proposes a theoretical framework that explains the contribution of social capital for adopting digital technologies and achieving sustainability. This framework offers insights for policy-makers, business leaders, and researchers aiming to adopt digital strategies and implement sustainability initiatives across borders. By highlighting the intersection of these domains, the study contributes to both theory and practice. It also offers actionable propositions for designing international marketing strategies—particularly in areas such as sustainable branding, market-driven sustainability, and tech-enabled global growth.

Overall, based on the results of this SLR, a theoretical framework is proposed in Figure 4. The remaining sections of this study address the following: Section 2 covers the literature on social capital for adopting digital technologies and achieving sustainability. Section 3 presents the methodology used for this study. Section 4 highlights the descriptive analysis of SLR. Section 5 presents the results (emergent themes and sub-themes) and highlights the theoretical constructs for the proposed framework on social capital for digital transformation and sustainability. Finally, the theoretical contributions, managerial implications, and limitations along with future research directions are presented in Section 6.

2. Background

2.1 Social capital and digital transformation

The social capital concept is considered a multidimensional paradigm that provides a collective value of integrated resources (i.e., real and potential) for developing mutual trust and shared norms in diversified settings (i.e., individual, organisational, and social). The silent benefits of social capital are: (a) improved government responsiveness, (b) reduced opportunistic conduct, (c) enhanced social cohesion, and (d) improved information sharing (Coleman, 1988; Paxton, 2002; Putnam et al., 1994). Social trust and capital are critical factors in adopting digital platforms, embracing digital innovations, and managing knowledge-sharing (Bandera & Thomas, 2019; Heubeck, 2023) in global marketplaces. Further, these aspects play a pivotal role in building cross-border business connections, promoting global consumer engagement, and enhancing the digital transformation in international markets (Pfajfar et al., 2024). Additionally, social networks are used to enhance the capabilities of an organisation to adopt digital transformation (i.e., remote working and digital collaborations) (Daskalopoulos & Machek, 2024) in adopting global connectivity and enhancing market responsiveness (Aghazadeh et al., 2024). For instance, social change and embracing innovation can establish a commitment to valuing the eco-friendly aspects, improve occupational health and safety, and achieve better sustainability performance (Si et al., 2023). Explaining further, digital initiatives (i.e., IoT and blockchain) can enhance ecological transparency and traceability of information for improving human participation and organisational corporations to enhance sustainable development (Alves et al., 2022) in the international marketing context.

2.2 Social capital and sustainability

Social capital has emerged as an essential parameter for developing a sustainable paradigm by promoting resilience and collective sustainable action plans to mitigate climate change issues, which leads to improved sustainability aspects (Kundo et al., 2024). For

instance, social cohesion based on institutional credibility and broader unity plays an important role in shaping cooperation (i.e., horizontal and vertical) and developing sustainability policy to transform a zero-carbon society (De Juan & Hänze, 2021; Phemelo et al., 2024). Further, increased awareness, social demand, and public advocacy have led to promoting climate activism, renewable energy policy, and resource conservation initiatives (Cheung et al., 2025; Dias et al., 2024). Additionally, social change has amplified green-sustainability initiatives and reduced carbon emissions, thereby mitigating greenhouse gas emissions for contributing to resolving climate change issues (Li et al., 2024). Furthermore, environmental training institutions and social networks can support the enforcement of environmental regulations of a country, thereby promoting corporate environmental responsibility (Phemelo et al., 2024; Rodríguez-Espíndola et al., 2022). In the same vein, social engagement based on cognitive capital and social value can enhance sustainable practices to achieve the triple bottom line (i.e., environmental, social, and economic) benefits and improve strategic performance (Dias et al., 2024).

In conclusion, the individual roles of social capital, digital transformation, and sustainability in designing international marketing strategies have been discussed in the existing literature; however, their theoretical interplay remains underexplored. For instance, social capital facilitates the localisation of digital strategies and the building of trust-based relationships across international markets (Pigg & Crank, 2004). Similarly, connecting a sustainability paradigm with multi-layered market demands (Roxas, 2021) may raise concerns about sustainability (substantial vs greenwashing). The interplay of social capital, digital transformation, and sustainability may provide a nuanced approach to achieving socially embedded, digitally enabled, and sustainable competitive advantage in international markets.

3. Research methodology

An SLR provides a structured, scientific, and unambiguous approach to evaluate the current stage of research (i.e., social capital for digital transformation and sustainability in this study's case). The SLR method adopts an accurate, transparent, and explicit process for providing an evidence-based guideline for researchers on current and next research frontiers (Tranfield et al., 2003). Further, for a reliable and quality SLR, several stages and steps comprise extracting relevant information. These stages are: (1) planning and conducting the review, and (2) analysis of the review. The SLR conducted in this article identifies the potential gaps and theoretical components of social capital for digital transformation and sustainability since limited research literature is available.

The SLR as a research methodology narrows down the research work to identify quality papers on social capital for digital transformation and sustainability. All the relevant peer-reviewed journal articles that fall within the scope of this Scopus and WoS-based SLR are included. Only journal articles have been included in this paper to be sure of the quality of the publications. For instance, peer-reviewed journal manuscripts were considered to include rigorously reviewed and high-quality articles in this SLR. The grey literature (i.e., conference proceedings, book chapters, and dissertations) was excluded to avoid potential variation due to the lack of following the peer review mechanism and the absence of methodological rigor in these documents. Scopus and WoS are selected for this SLR since these databases are considered major sources of data citation (Mongeon & Paul-Hus, 2016). For instance, Scopus and WoS databases contain around 25,100 and 21,400 journal articles and cover over 76 and 75 million records respectively (Ahmed & Mathrani, 2024). Furthermore, these databases cover different parameters of search such as author, year, subject area, source, document type, countries, institution, funding agencies, and language.

Scopus and WoS databases were selected to conduct this SLR by the reason of their comprehensive coverage of peer-reviewed and high-quality journal articles across multiple disciplines (i.e., extensive inclusion of leading management and marketing journals). Conversely, other indexed service platforms such as Google Scholar excessively include non-peer-reviewed publications (i.e., less transparent quality control) and grey literature (i.e., conference papers and book chapters), which can affect the rigor of this SLR. Two researchers of this study were involved in selecting, screening, and extracting the most relevant articles, thus addressing and minimising selection bias. The designated researchers independently screened articles (i.e., titles, abstracts, and full text) based on predefined inclusion and exclusion guidelines. Further, individual partiality and discrepancies in selecting these articles were reduced by consulting the third researcher and establishing consensus between the review team of this SLR. The review period for this research is between 1980 and 2025 (February). For instance, the starting year 1980 has been selected for this SLR search since Pierre Bourdieu provided the contemporary definition of social capital in his renowned book chapter "The Forms of Capital" in the mid-1980s to better explain the social capital phenomenon in terms of power, resources, and social discrimination (Bourdieu, 2002). We purposely selected an extensive range of years to provide an inclusive overview of the evolution of the social capital research paradigm. The keywords have been selected by a detailed analysis of available literature on social capital for digital transformation and sustainability. Further, a "snowball" approach has been employed in the search criteria of the keywords (Wohlin et al., 2022). The

methodology of reporting utilised in this systematic review is preferred reporting items for systematic reviews and meta-analysis (PRISMA) as suggested by Moher et al. (2009) to represent the flowchart and filtration of the relevant articles by applying inclusion and exclusion criteria.

Data such as type of journal, year of publication, authors, and research methodology have been extracted through a comprehensive reading of the full text of articles and compiled into an all-in-one Excel® software for further analysis. A total of 403 documents were found in Scopus and WoS databases. In the next step, the articles were excluded by applying review protocols such as (1) text in English language and (2) peer-reviewed articles by excluding documents based on conference papers, book chapters, reviews, and notes. To remove the duplication of articles, EndNote® software is utilised. After excluding duplicate articles (i.e., 71 duplicate articles), 211 journal articles were obtained for further exclusion. The articles based on sustainability aspects only (i.e., 73 articles), the articles based on social capital focus only (i.e., 19 articles), and the articles based on digital initiatives only (i.e., 12 articles) were excluded. For instance, the findings of this SLR indicated that 73 articles (e.g., Allawi, 2022; Duarte et al., 2024) were excluded because these articles exclusively focus on sustainability without meeting the inclusion criteria of addressing the social capital and digital transformation paradigms. Explaining further, for example, the article written by Duarte et al. (2024) only explaining the sustainability aspects (i.e., achieving biodiversity and biodiversity goals), thus excluded from the final list of articles for analysis. Further, 25 articles were also excluded due to lack of full-text availability and out-of-context articles. For instance, the findings of this review suggested that the articles (i.e., Al-Mashkoor & Al-Maliki, 2024; Bartkowski & Bartke, 2018; Dikou, 2024) are outside the scope of the SLR regarding achieving the research objectives. Explaining further, Dikou (2024) explained the competence in unsustainability resolution in their article, which is out of context for this SLR, therefore, excluded from the final list of articles. Finally, 92 journal articles were selected to analyze the social capital for digital transformation and sustainability. The details of inclusion and exclusion criteria are encapsulated in Table 1.

Table 1. The details of inclusion and exclusion criteria (Source (s): Table by authors)

Criteria	Description	Scopus	WoS
Keyword search	Keywords ("social capital") AND (technology OR “big data” OR "artificial intelligence" OR "internet of things") AND (sustainability)	219	184
Timeframe	1980- 2025 (February)	219	184
Language	Documents were excluded other than English language	215	183
Source type	Only peer-reviewed articles were included	(Excluded conference papers, book chapters, and notes = 92)	(Excluded conference papers,

Criteria	Description	Scopus	WoS
		Remaining articles= 123	book chapters, and notes = 24) Remaining articles= 159
Total articles remaining	Articles in both Scopus and WoS databases	282	
Duplication of article	Duplicated articles in both Scopus and WoS databases (No. of articles excluded = 71)	211	
Abstract reading	73 articles were excluded focusing on sustainability only (neglecting the social capital and digital aspects) (No. of articles excluded = 73) 19 articles were excluded focusing on social capital only (neglecting the sustainability and digital aspects) (No. of articles were excluded = 19) 12 articles were excluded based on digital transformation only (neglecting the social capital and sustainability aspects) (No. of articles excluded = 12) (Total no. of articles excluded = 104)	107	
Full paper reading		92	
Articles selected for analysis		92	

4. Description of data

A descriptive analysis of 92 selected peer-reviewed articles is presented in this section. Number of publications by year, proportion of journal articles, and their research methodology are explained in the description of data. The results indicated that the impact of social capital for digital transformation and sustainability has gained popularity among researchers from 2020 to 2025 with 64.13% of journal articles released in this period. The highest number of publications (articles 21; 22.82%) was published in a single year (2024) as depicted in Figure 1.

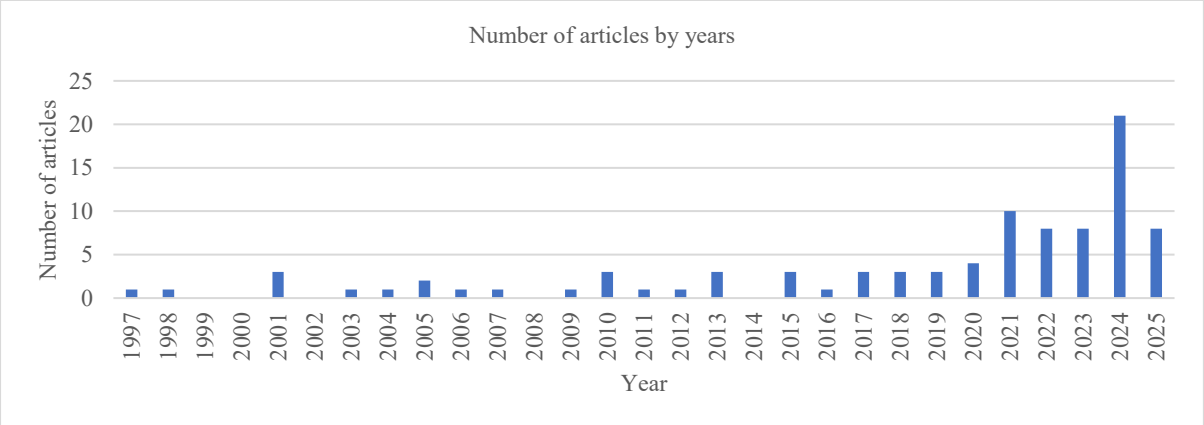

Figure 1. Distribution of peer-reviewed articles per year (source (s): Figure by authors)

The interplay of social capital, digital transformation, and sustainability is an emerging concept, with limited journal research published on this paradigm. 92 selected WoS and Scopus-based records have been published in different renowned peer-reviewed journals. The figure suggests that the highest number of articles are selected from journals such as *Sustainability* (11 articles; 11.95%), *International Market Review, Environment Development*

and Sustainability and *Journal of Rural Studies* (each 3 articles; 3.26%), and *Technological Forecast and Social Change*, *Journal of Sustainable Tourism*, *Journal of Environmental Management, Frontiers in Psychology, Energy Research & Social Science, Millennial Asia,* and *China Agricultural Economic Review* (each 2; 2.17%). Journals with a single manuscript are represented in "Others" classification as portrayed in Figure 2.

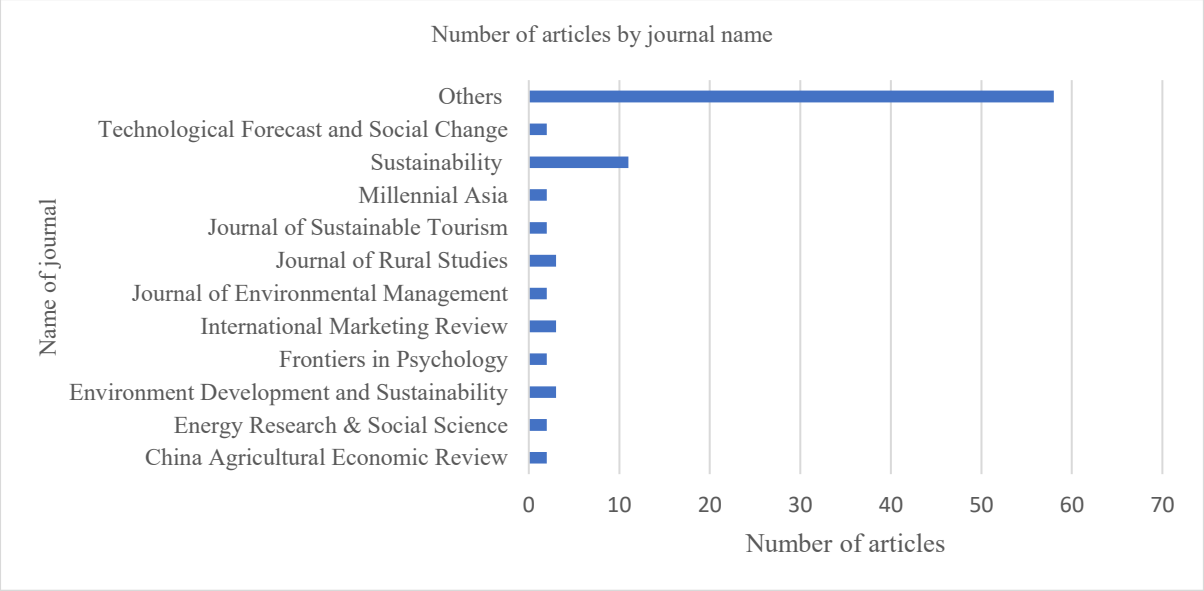

Figure 2. Distribution of peer-reviewed articles by journal name (source (s): Figure by authors)

The findings of this review indicate that the highest number of articles were indexed from the *Sustainability* journal due to its high volume of manuscripts focused on social capital, digital transformation, and sustainability, which is also consistent with the scope of this study. However, variations in editorial standards of this open-access publication caused potential bias. On the other hand, the application of rigorous inclusion and exclusion guidelines helped the researchers of this study to include the prominent journal articles with strict editorial standards. For example, a reasonable number of articles from reputable journals like *International Marketing Review, Technological Forecast and Social Change, Journal of Sustainable Tourism, and Journal of Environmental Management* were included to enhance the credibility of the review.

Different research methodologies have been adopted in the selected records for exploring social change for digital transformation and sustainability. Quantitative analysis (28.26%) based methodology has been adopted most in the selected records. Other methodologies utilised in the remaining articles include systematic literature review and quantitative method (22.82%), systematic literature review (18.47%), systematic literature review and qualitative analysis (14.13%), mixed method (9.78%), and qualitative analysis

(6.52%). The classification of peer-reviewed journal articles by research methodology is represented in Figure 3.

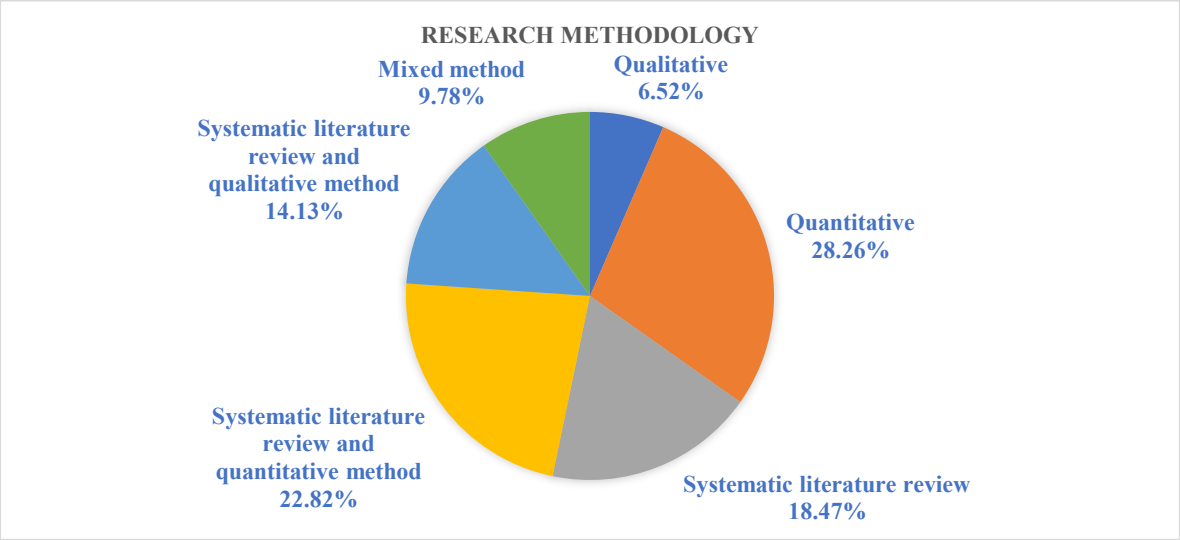

Figure 3. Distribution of peer-reviewed articles by methodology (source (s): Figure by authors)

After a deep analysis of selected records, the most relevant 92 articles referred to social capital for digital transformation and sustainability have been selected for extracting the main themes and sub-themes in the analysis section. A thematic analysis was performed to identify and synthesise occurrences of patterns across the selected 92 journal articles in this SLR. Open-coding procedure (i.e., deductive coding) was adopted for extracting main concepts, themes, and their relationships based on research questions and predefined research objectives of this current SLR (Bingham, 2023). Further, iterative analysis via an inductive coding approach was also adopted for developing new emergent codes. For instance, social capital for sustainability emerged as a main code resulting inductive coding approach (i.e., compliance with the predefined guidelines, research questions, and objectives of this study). Further, sub-themes under social capital (i.e., government food safety laws, and consumer awareness initiatives) and improved agriculture eco-system (i.e., ensuring food security, reducing soil acidification, and mitigating food waste) emerged by following the comprehensive open-coding guidelines. Two researchers of the current project were involved to ensure inter-code reliability by analyzing and coding the selected articles as suggested by using Cohen's Kappa inter-coder agreement concept conceptually (Cohen, 1960). Further, Cohen's Kappa concept was utilised as a conceptual reference without reporting quantitatively to determine the inter-rater reliability in this study. For instance, this concept was used by developing independent analytical judgements based on identical meaning and categorisation logic (i.e., conceptual aspects) than producing comparable coding units quantitatively. Explaining further, a genuine agreement

was reached amongst the coders in developing four sub-themes (i.e., application of IoT, AI, big data, and blockchain) under the main theme of social capital for digital transformation in the operational context of Cohen's Kappa concept. The discrepancies reported during thematic analysis (i.e., synthesising and developing sub-themes and main themes) were resolved by discussion and consensus amongst the two designated researchers as coders. These coders were responsible for developing the initial codes and codebook based on the analysis of selected articles to create initial sub-themes and main themes. The data from the initial codebook was further analysed and used to create final sub-themes and main themes. The reliability of inter-coder was enhanced by including the excellent and moderate to good Kappa scores as proposed by Cohen (1960) for resolving coding disagreements, discrepancies, and audit trail issues in the thematic analysis.

5. Results

This section presents the outcomes from the SLR analysis. This analysis aims to answer the research question on how social capital for digital transformation and sustainability is explored, to identify key insights from each discipline, and to suggest potential directions for future research. To provide an overview of the comprehensive review, we examine the significant sub-themes for developing the main themes as shown in Table 2.

Table 2. Main themes based on sub-themes emerged in the SLR analysis based on references

SN	Main themes emerged in the SLR analysis	Sub-themes emerged in the SLR analysis	References
1	**Social capital for digital transformation**	Application of the internet of things	April et al. (2009), Katsikeas et al. (2020), Peng et al. (2008), Ramaiah (2021), Ul zia et al. (2023), Wang et al. (2023), and Xie et al. (2024)
		Application of AI	Theodorakopoulos and Theodoropoulou (2024) and Ying and Jin (2024)
		Application of big data	Del Vecchio et al. (2022), Fu (2021), Malik et al. (2024), Ul zia et al. (2023), Xu and Zhang (2020), and Zhou et al. (2024)
		Application of blockchain	Benzidia et al. (2021), Oguntegbe et al. (2021), and Saberi et al. (2019)
2	**Social capital for sustainability**	Green-sustainability	Akanpaaba et al. (2022), Aprile and Fiorillo (2023), Broska (2021), Mubarak et al. (2024), and Xu and Zhang (2020)
		Application of circular economy paradigm	Amjad and Diaz-Elsayed (2024) and Zhou et al. (2024)
		Application in sustainable smart cities	Amjad and Diaz-Elsayed (2024), Freestone and Favaro (2022), and Mutambik (2024)
		Improved tourism ecosystem	Bystrowska et al. (2017), Duarte et al. (2024), García et al. (2022), and Rastrollo-Horrillo and Rivero Diaz (2019)
		Improved agricultural ecosystem	Cui et al. (2025), Martinez-Baron et al. (2024), Pineiro et al. (2021), and Zhu and Wang (2024)
		Improved energy consumption	Broska (2021) and (Ye et al., 2021)
		Amplifying climate resilience	Al-Mueed et al. (2021), Malik and Singh (2024), and Noble et al. (2024)
3	**Social capital for digital transformation and sustainability**		Amjad and Diaz-Elsayed (2024), Bay (2010), Lee and Park (2019), Mazzanti (2018), Sanginga et al. (2010), Temple et al. (2011), Xin et al. (2020), and Zhou et al. (2024)

5.1 Understanding of social capital for digital transformation

The first major thematic paradigm of social capital for digital transformation with important sub-themes involves, for instance, the applications of IoT (April et al., 2009; Xie et al., 2024), AI (Ying & Jin, 2024), big data (Del Vecchio et al., 2022; Xu & Zhang, 2020), and blockchain (Benzidia et al., 2021; Oguntegbe et al., 2021). Further, this main theme (i.e., social capital for digital transformation) based on this SLR suggests that social change is integrated with digital initiatives for sustaining knowledge management, improving information sharing, and enhancing sustainability. For instance, Internet-based digital technologies combined with social capital aspects have been utilised to provide flexibility in solving operational challenges and exploring new opportunities for resource-restrained organisations in foreign market contexts (Katsikeas et al., 2020). Further, social capital has a prominent impact on organisations in adopting technological initiatives such as IoT for enhancing technological knowledge, reducing operational costs, and minimising technological risks (Xie et al., 2024). Thus, social capital can facilitate the adoption of emerging technologies and sustainable operations in foreign markets.

The findings of this SLR suggested that social networks based on AI can be used to enhance the knowledge competencies of the workforce in an organisation for adopting sustainable initiatives, improving information flow between the stakeholders (i.e., transparency), and promoting community engagement via virtual assistants (Ying & Jin, 2024). For instance, AI-powered virtual assistance helps international luxury brands to collect real-time feedback and tailor marketing messages for better achievement of brand positioning and boosting cross-border stock across diverse geographies (Theodorakopoulos & Theodoropoulou, 2024). Alternatively, central data management and social connectivity can help an organisation to develop a customer-oriented sustainability culture in diversified markets (Del Vecchio et al., 2022). For instance, the findings of their study revealed that management culture and organisational orientation focused on customer relationship play a fundamental role in adopting IT-based infrastructures and analysing the big data (i.e., digital transition). Furthermore, social capital aspects (i.e., inter-organisational trust, shared knowledge, and improved partner connections) integrate digital technologies such as blockchain for improving sustainability parameters (i.e., product safety, strategic positioning, and brand authenticity) (Oguntegbe et al., 2021). Additionally, the findings of this SLR also suggested that IoT sensors, RFID, and wearable devices provide real-time data on inventory monitoring and context-aware messaging to better enhance supply chain integration and predictive international customers' engagement (Paul et al., 2022). Similarly, big data enables

multinational corporations to monitor global trends, segment audience topographies, improve demand forecasting, and achieve marketing goals strategically (Xu & Zhang, 2020; Zhou et al., 2024). Progressing further, in another study conducted by Benzidia et al. (2021), who explained the impact of social factors on blockchain technology to provide an interactive balance between buyers' innovation and digital manufacturing capabilities for improving sustainability. For instance, in luxury brands and food supply chains, blockchain-based traceability and transparency (i.e., consistent records and QR codes) help to develop trust amongst multi-tier suppliers, enhance brand credibility, and improve international supply chain resilience (Saberi et al., 2019).

5.2 Understanding of social capital for sustainability

The second major thematic area includes social capital for improving sustainability, particularly in the areas of sustainability policy and strategic planning, with a growing need to become environmentally and socially responsible in business settings. The analysis of this SLR reveals several concepts that have shaped social capital for improving sustainability aspects. Among these dominant aspects, green-sustainability (Aprile & Fiorillo, 2023; Mubarak et al., 2024), circular economy paradigm (Amjad & Diaz-Elsayed, 2024; Zhou et al., 2024), sustainable smart cities (Freestone & Favaro, 2022; Mutambik, 2024), improved tourism ecosystem (García et al., 2022; Rastrollo-Horrillo & Rivero Diaz, 2019), improved agricultural ecosystem (Cui et al., 2025; Pineiro et al., 2021), improved energy consumption (Broska, 2021; Ye et al., 2021), and amplifying climate resilience (Malik & Singh, 2024; Noble et al., 2024) emerge as the most central sub-themes under the main themes (i.e., sustainability) in the dataset. These prominent aspects form the central pillars of sustainability studies, emphasising the importance of social capital based on the findings of the SLR.

The earliest and most important contributions to the social capital exploring sustainability were conducted by Bebbington (1997) and Selman (2001) as concluded by this SLR. For instance, social capital aspects (i.e., policy and government development intervention) are considered critical civil society factors to achieve sustainability and poverty alleviation (Bebbington, 1997). Additionally, Selman (2001) explained the public participation in developing environmental improvement plans and designing eco-friendly products to enhance consensus and stimulate active environmental citizenship. The findings of this SLR indicated that early studies on social change for sustainability (Bebbington, 1997; Hanson, 1998) and digitalisation (Crump, 2006; Farooq et al., 2007) as separate streams show the phase of literature (i.e., between 1997 to 2009). Proceeding further, the scholarly literature suggested

integrating the social capital for achieving sustainability and digital transition perspectives (e.g., Bay, 2010; Huet al., 2015; Mazzanti, 2018) to promote international marketing strategies between 2010 to 2020. The most recent literature reflected the convergence and interplay of social capital, digital transformation, and sustainability (e.g., Amjad & Diaz-Elsayed, 2024; Rahman & Huq, 2023; Zunairoh & Wijaya, 2024) in addressing the influential aspects for designing international marketing strategies (i.e., between 2020 to the present).

The findings of the SLR suggested that social capital (i.e., building trust, collective actions, and organisational collaborations) improves the capability of new product development for improving green sustainability dynamism (i.e., improved supplier satisfaction and environmental aspects) (Akanpaaba et al., 2022). In the same notion, behavior change towards the pro-green initiatives (i.e., adopting renewable energy technologies and setting environmental objectives) is considered a prominent aspect designed for achieving environmental performance and mitigating climate change (Broska, 2021). Further, Amjad and Diaz-Elsayed (2024) explained the impact of social change (i.e., government regulations, employment growth, and adoption of eco-friendly activities) for improving resource management, promoting eco-friendly urban projects, and enhancing waste-to-value. The findings of this SLR also explained the impact of social capital (i.e., implementing government food safety laws and consumer awareness) for improving sustainability performance (i.e., ensuring food security, reducing soil acidification, and mitigating food waste) in the agriculture industry (Cui et al., 2025; Pineiro et al., 2021). Further, in the context of the tourism ecosystem, an advanced form of sustainable tourism, which echoed as regenerative tourism (i.e., overcoming environmental and societal issues) can be attained by raising awareness of climate change and adopting ethical tourism experiences (Duarte et al., 2024). Proceeding further, social capital based on businesses and institutional destination paradigm is used to explain the innovation of small tourism firms and achieve triple-bottom-line sustainability (Rastrollo-Horrillo & Rivero Diaz, 2019). The SLR findings also explained the impact of social capital on efficient energy usage (Ye et al., 2021) and amplifying climate resistance (Al-Mueed et al., 2021; Noble et al., 2024). For instance, the volunteer participation (i.e., an aspect of social capital), community awareness (i.e., social culture), and application of technical advancements are considered critical in forecasting and mitigating flooding risks (Al-Mueed et al., 2021). Further, the findings of this SLR also emphasised that the circular economy provides a foundation of genuine sustainability development (i.e., substantive improvement by improving resource efficiency and minimising all kinds of waste) as signalling a firm's commitment to create social values (i.e., strengthen trust) in international markets (Zhou et al., 2024).

However, the outcomes of this review also indicated that ambiguous trust derived from social capital considers symbolic sustainability actions (i.e., greenwashing) (Choudhury et al., 2024; Thirumalesh Madanaguli et al., 2023). These actions indicated the potential barriers to the circular economy and sustainable development by legitimising misleading sustainability accusations in the diverse markets.

5.3 Understanding of social capital for digital transformation and sustainability

The evolution of the social capital phenomenon for digital transformation and sustainability is presented by highlighting the significant themes and sub-themes in the past decades. These developments have represented the advancement of scholarly attention on these research paradigms in recent years as depicted in Figure 1. For example, the outcomes of this SLR reveal that the role of social capital for adopting digital technologies and achieving sustainability goals received limited scholarly attention between 1997 and 2016. This dearth suggests that the social capital paradigm was still in its evolution phase, particularly in the context of digital transformation and sustainability. The findings of this study also suggest that the earliest study on social capital for transforming digital initiatives and achieving sustainability was conducted by De Haan (2001), who explained the role of social capital aspects in terms of community and group approaches for disseminating technological initiatives and achieving sustainability aspects (i.e., improved resource utilisation and quality of life).

In the recent era (2017–2025), the existing literature on the social capital paradigm argues scholarly growth in adopting digital advancements and achieving sustainability goals. For instance, the impact of social capital by adopting digital initiatives (i.e., blockchain technology and IoT) enables organisations to monitor resource utilisation in real-time for evaluating and improving environmental performance. Simultaneously, social capital has become a key consideration in recent years for diversified organisations to share the organisational sustainability goals and explain resource requirements with their suppliers to achieve overall sustainability (Ahmed & Shafiq, 2022). Further, an integrated approach by adopting social change aspects (i.e., entrepreneurial ecosystem and government support) with the application of blockchain technology and robotic systems is used to achieve better socio-economic performance. This combined approach is also utilised to promote sustainability aspects (i.e., circular objectives) in the urban manufacturing eco-systems (Amjad & Diaz-Elsayed, 2024). In the same string, the convergence of consumer credibility and supplier relationships with the help of digital transformation (i.e., blockchain and robotic automation)

can allow firms to enhance supply chain resilience, achieve circularity goals, and gain a sustainable competitive advantage in international markets.

The findings of the SLR suggested that most of the studies on social capital for digital transformation and sustainability are conducted in the context of food supply chain management. For instance, social capital capabilities (i.e., internal and external) and big data analytics help in improving sustainability (environmental, economic, and social) to develop a circular supply chain management (Zhou et al., 2024). In the same context of the food supply chain, Cui et al. (2025) explained the impacts of social indicators and technological advancements for achieving environmental sustainability. For instance, social networks for boosting consumer awareness and workforce training initiatives help to adopt integrated nutrient technologies (i.e., scientific fertilisation and soil management) to mitigate global warming and reduce food security issues. In the same vein, social capital and technological cognition have a positive impact on adopting ecologically friendly initiatives and reducing perceived risks (Xie et al., 2024). Further, the competencies of the workforce and accessibility of capital can be enhanced by government-sponsored training initiatives and financial funding. In essence, social capital plays a pivotal role in driving digital transformation and sustainable practices across diverse markets. For instance, data-driven assessment (i.e., digital transformation) and sustainability commitment (i.e., environmental compliance aspects) can help international businesses to initiate a joint venture in foreign soils that also aligned with stakeholder expectations (Javaid et al., 2022; Zhou et al., 2024). Further, digital platforms are used to monitor real-time data on new product campaigns and environmental performance (Benzidia et al., 2021) to facilitate the local stakeholder engagement in developing brand credibility and promoting environmental sustainability initiatives (Akanpaaba et al., 2022). In a nutshell, the synergistic effect of these three paradigms enables the diversified markets in managing resource usage and enhancing agility to build competitive advantage and sustain value propositions (i.e., meeting compliance regulations). The proposed theoretical model presented in Figure 4 offers a structural representation on how social capital facilitates the digital transformation and sustainability in designing international marketing strategies.

***** Insert Figure 4 about here*****

Social capital aspects (i.e., inter-organisational trust and customer-oriented culture) provide the relational foundation for adopting digital technologies (i.e., AI, big data, and blockchain) and enabling sustainability environmental objectives (i.e., climate resilience and improved energy consumption) (Del Vecchio et al., 2022). The proposed theoretical framework explained that shared values provide an enabling environment to implement digital initiatives

and advanced solutions to amplify environmental performance in diverse international markets (Cáceres-Carrasco et al., 2020; Javaid et al., 2022). Further, the integrated relationships of social capital, technological transformation, and environmental aspects are used to drive the perceived benefits and competitive advantages (i.e., processed eco-friendly products, improved strategic positioning, and enhanced transparency).

6. Conclusion

6.1 Theoretical contributions

Our study contributes to the various literature streams. It offers a comprehensive analysis of existing literature, identifies new themes in key areas, and presents a theoretical framework. This study provides important insights for future theoretical and practical shifts while designing international marketing strategies. First, our study offers a comprehensive systematic review of how social capital propels technological transformation and sustainable development by examining key differences and similarities across these domains. According to findings, firms should focus on social capital (i.e., organisational culture, consumer awareness, and obligation to statutory requirements) to support digital transformation (i.e., IoT, AI, big data, and blockchain) and achieve sustainability (i.e., ensuring food security, improving quality of life, and processing eco-friendly products). Indeed, this interplay can help businesses in developing and designing global marketing strategies that meet digital innovation and sustainable business goals for achieving sustained growth and long-term success. Through the mapping of these interconnected perspectives, this study provides a theoretical framework and offers insights on how to use social capital in global marketplaces to support digital transformation and sustainable initiatives.

Second, this study identifies key areas of interest (i.e., sub-themes and main themes) in the fields of social capital, digital transformation, and sustainability over the past few years. The findings suggest that businesses should focus on social capital as a key enabler of digital transformation and sustainability across diverse marketplaces. As companies expand their operations into global markets, social capital can play a significant role in fostering digital trust, strategic collaboration, and improving cross-border stakeholders' engagement.

Third, this study also offers insights into how emerging market demands shape the role of social capital towards digital transformation and sustainability, which in turn influence international marketing strategies (i.e., sustainable supply chain management, technology-driven growth, and sustainable branding). Additionally, this study lays the foundation for

further investigations into how firms can use social capital to achieve competitive advantage in the global and diverse markets.

Fourth, this study offers a theoretical foundation for underdeveloped areas such as the impact of social capital on circular economy adoption, green sustainability awareness, and sustainable smart cities in global market contexts. Additionally, the current study identifies a few crucial areas, such as building climate resilience (i.e., forecasting and mitigating floods) and implementing digital sustainable plans (i.e., IoT and AI-based digital initiatives) that are essential for firms operating in global marketplaces. Exploring the social capital dimensions can enable businesses to develop effective international marketing strategies that integrate digital transformation with sustainability for achieving enhanced competitiveness and long-term market success. In essence, this study develops a framework linking social capital, digital transformation, and sustainability with key concepts such as institutional embeddedness, legitimacy, and global strategy, thereby providing a foundation for advancing knowledge in international marketing and cross-border operations.

6.2 Managerial implications

Our findings provide valuable insights for firms seeking to improve strategic positioning, enhance operational efficiency, foster digital innovation, and develop sustainability-driven strategies in international markets. First, businesses can use social capital to drive digital transformation and achieve sustainable goals by strengthening networks and engaging in collaborative projects across international markets. Developing partnerships with global suppliers, customers, and industry partners facilitates knowledge sharing and mitigates technological risks (Khalid et al., 2025), which in turn assist firms in designing effective international marketing strategies. For instance, Unilever's collaboration with local suppliers and communities in emerging markets shows how social capital can be used to co-create sustainable solutions, improve trust, and reinforce operational resilience. Similarly, Siemens promoted innovation through global hubs that encourage cross-border collaboration and integrate diverse perspectives into digital product development. The above examples highlight how integrating sustainability into organisational culture is valuable across diverse industries and markets, as it strengthens legitimacy, facilitates regulatory compliance, and differentiates firms through credible sustainable practices. Indeed, it considers essential for firms to develop key partnerships, promote transparency, and encourage open communication to enhance trust, reduce uncertainty, and facilitate market adaptation (Waqas et al., 2025). These aspects are also important for developing and implementing international marketing strategies.

Second, managers should invest in technologies such as AI-driven sustainability analytics that enable firms to monitor environmental performance, streamline supply chains, and reduce operational costs (Zahoor et al., 2025). In doing so, firms can co-create digital strategies that deliver both commercial and societal value, a key competitive advantage in global marketplaces increasingly driven by environmentally conscious consumers. Additionally, by integrating green technologies into their operations, firms can increase transparency, meet international environmental regulations, and develop products that align with the emerging sustainable needs and preferences of international consumers (Benzidia et al., 2021). These strategies assist firms in improving their global market positioning while also contributing to broader sustainable goals.

Third, integrating sustainability into the organisational culture is essential for businesses operating in culturally diverse global markets. Firms can achieve a competitive advantage through implementing energy-efficient technologies, sourcing eco-friendly materials, and adopting circular economy principles that emphasise product reuse and remanufacturing. For example, Apple has taken significant steps by using recycled materials in product manufacturing and improving energy efficiency, which not only strengthened their commitments towards implementing global sustainability initiatives but also ensured compliance with emerging international statutory standards. Indeed, managers should train employees on sustainable business practices and invest in tools that support continuous learning and adaptation. These actions demonstrate the organisation's commitment to environmental responsibility, which in turn differentiates its international marketing strategies through credible sustainability practices.

Finally, firms should develop climate-resilient and culturally adaptive strategies that contribute to global competitiveness. Adoption of this culture can help the local communities in implementing sustainability initiatives, responding to stakeholder feedback, and customising approaches to fit local culture and regulatory contexts are essential for achieving organisational sustained growth (Zahoor et al., 2025). Companies that align their environmental goals with the expectations of local stakeholders may gain legitimacy, strengthen market position, and achieve sustainable goals in international markets. This investment in climate-resilient infrastructure, developing responsive supply chains, and integrating emerging environmental technologies into business operations enables firms to enhance cost efficiency, reduce environmental risks, and reinforce their sustainable positioning (Khalid et al., 2025). In short, a digitally enabled sustainability approach grounded in social capital provides businesses a practical pathway to succeed in an increasingly competitive and environmentally conscious

global marketplace. Overall, social capital serves as a strategic enabler that drives digital innovation, sustainability, and long-term competitiveness, while fostering resilience and adaptability in diverse international markets.

6.3 Limitations and future research

This research provides key insights into how social capital facilitates digital transformation and sustainability for designing international marketing strategies. Despite various strengths, our study still has limitations. First, while the current SLR is based solely on Scopus and WoS databases, which may pose a limitation on available insights, future research could incorporate additional databases to ensure a more comprehensive synthesis of literature. Second, the focus on peer-reviewed journal articles excluded potentially insightful grey literature such as reports, working papers, and conference proceedings, which may offer context-specific insights. Future research may benefit from a broader inclusion strategy to gain better insights on the interplay of social capital, digital transformation, and sustainability for designing international marketing strategies.

Third, although thematic saturation was achieved through rigorous coding, some emerging themes may have been overlooked due to the scope and structure of the selected literature. The overrepresentation of studies from developed economies may also limit the generalisability of findings to underexplored regions, such as developing economies, where institutional and cultural dynamics differ significantly. Additionally, this review included papers from the Sustainability journal due to its high volume of manuscripts focused on social capital, digital transformation, and sustainability which may affect the rigor and reliability of some key findings. Acknowledging variability in journal quality is important when interpreting the strength of the synthesised themes. Further, the inclusion criteria to search the open-access journals, such as "*Sustainability*" can exhibit partial bias, which entails a limitation for this SLR investigation. However, the quality of peer-reviewed articles can be enhanced in future studies by excluding open-access journals in the predefined search criteria. To mitigate the limited number of articles by excluding open-access journals, multiple databases can be searched (e.g., Scopus, WoS, ScienceDirect, IEEE Xplore) for obtaining reasonable quality articles on the current topic.

Fourth, this study adopts a systematic literature review approach without engaging in empirical investigation. Future studies could use qualitative and quantitative methods to examine how social capital facilitates digital transformation and sustainability-driven initiatives which in turn assist firms in designing international marketing strategies.

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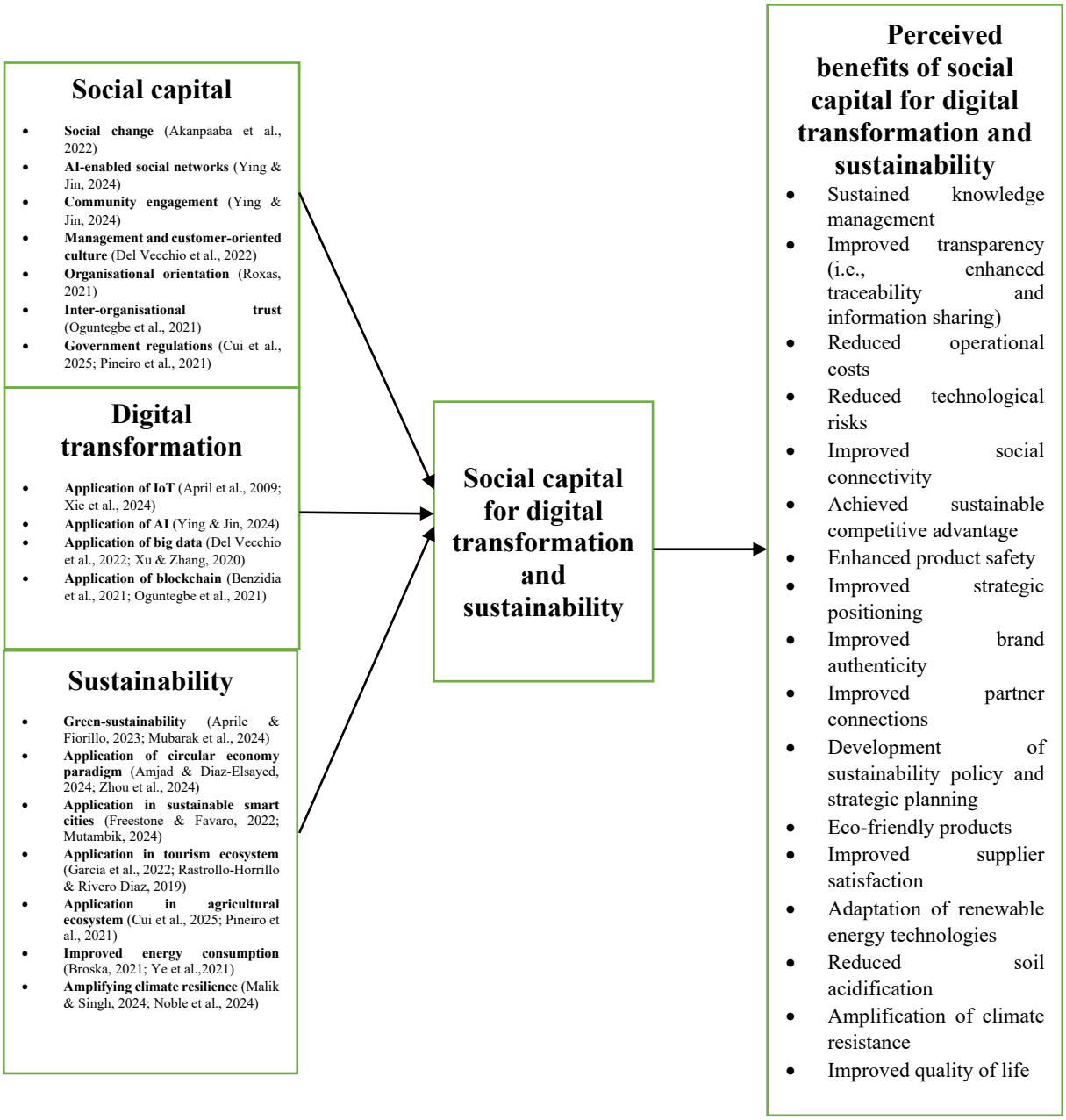

Figure 4: Proposed theoretical framework (source (s): Figure by authors)