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The Digitalisation of Social Entrepreneurship: Development and Practical Implications from a Bibliometric Perspective

Ruxandra Argatu

Bucharest University of Economic Studies, Bucharest, Romania
argatu.ruxandra@gmail.com

Nicolae-Marius Vavura

Bucharest University of Economic Studies, Bucharest, Romania
nicolae.vavura@fabiz.ase.ro

Abstract. Technological development stands as a buzzword, enabling sustained welfare in various areas, particularly for entrepreneurial ventures. Digital instruments allow entrepreneurs to be in touch with market changes and be one step ahead of competition, reducing physical barriers and connecting bits of information through a single click. To stand apart in a digitally evolving landscape, organisations must prove they are digitally mature, have willingness towards digital transformation, and that they display a supportive organisational culture which drives long-term change. Apart from the economic implications, digitalisation is a key pillar of the 2030 Agenda for Sustainable Development, nurturing sustainable social progress and assisting social entrepreneurship in its ambitious, transformational pursuits. Through digitalisation, the functioning of social enterprises and their interaction with their stakeholders are significantly reshaped, hence producing valuable social outcomes. By employing bibliometric analysis through specific search queries operated in the Clarivate (Web of Science) and Scopus databases, the paper aims to identify the most recent developments in the research concerning the digitalisation of social enterprises, to establish future research directions. The findings reveal increasing research interest for the digitalisation of social entrepreneurship and its rapid development into practical directions such as social value creation, management, and dynamic capabilities. There also seems to be a geographic polarisation trend, that may possibly indicate different general approaches or schools of thought concerning social enterprise digitalisation, reinforced by the distinctive historical economic progress of the UK and US versus Europe and their influence on South-East Asia and Middle East respectively.

Keywords. digitalisation, digital transformation, digital maturity, social entrepreneurship, social enterprise, bibliometric analysis.

1. Introduction

Digitally codified information and the functioning of the economic and social framework as networks are nowadays vitally important for allowing economic welfare, the generation of a digital economy that is efficient supposing infinite opportunities for organisations (Calderon-Monge & Ribeiro-Soriano, 2023; Valenduc & Vendramin, 2017). Faced with a new kind of economy, the digital economy, that involves structural variations as

well as the connection of individuals, organisations, and data by means of digital technologies, organisations must prove the willingness to learn on a continuous basis to shelter their competitiveness (Pînzaru et al., 2017; Javaid et al., 2024). This stands as a challenging mission since Shamilishvili et al. (2025) provide warning on the amplification of the digital divide in the modern world.

Through the change from the mass production economy to the digitalised network society, the participants of innovation networks exchange information by digital technologies and facilitate the procurement, transmission, and usage of knowledge (Kneil, 2021; Lafuente et al., 2023). Cooperating in this way, organisations can supply new kinds of products and services and new interactions with employees and customers, ultimately developing their innovation performance and tackling social and economic problems (Ge et al., 2023; Rachinger et al., 2018). The transformation of an organisation in digital terms is highly relevant by pursuing the creation of organisational agility, given that a strategic viewpoint must be embedded by organisations when reacting to change (Kraus et al., 2021; Lungu et al., 2023). In these circumstances, researchers (Neamţu et al., 2019; Vavura, 2022) recognise the emergence of the digital society in the context of the knowledge era and the integration of digitalisation in research and governmental policies.

Helping to draw a more sustainable future, social enterprises integrate responsible innovation in their quest for social welfare (Glasbeek et al., 2024; Mulloth & Iakovleva, 2024). As Skivko (2022) indicates, social enterprises use digital technologies to optimise crowdfunding actions, retain stakeholders, and disseminate their achievements. In addition, digitalisation is essential for social enterprises, assisting them in managing great unmet demand (SOCAP Global, 2022).

Given the above, this paper aims to look at the most recent developments in research on the digitalisation of social entrepreneurship in order to identify whether the field has indeed moved forward in the directions identified as lacking in previous research and to update expectations as to the future direction of research in this field (Chebo & Dhliwayo, 2024; El Maaqili & Ouchen, 2024). To accomplish the research objective, the paper employs bibliometric analysis by having as base point Clarivate (Web of Science) and Scopus databases comprising scientific publications. To obtain a clear image of the studied phenomenon, specific search queries were made in these databases. The findings point out that the digitalisation of social entrepreneurship is an emerging study theme, with increasing interest especially in Europe. In addition, the study reveals a polarised pattern, which provides hints on the possible different general approaches or schools of thought concerning the digitalisation of social enterprises, that may be fostered by distinctive historical economic development.

2. Literature Review

2.1. Conceptual Outlook on Digitalisation and Digital Transformation

In the present competitive, volatile, uncertain, and quickly changing markets, technological development is at its peak, digital innovation is the engine of entrepreneurial success, and the implementation of digital technologies poses multiple effects for economic and social progress (Firican, 2024; Kreiterling, 2023). According to Păunescu and Argatu (2020), the existence in such dynamic environments constrains organisations to set core directions of action that need to be pursued.

The efforts that an organisation undergoes to put in practice digital technologies with the final aim to widen its current business models, to reshape stakeholder relationships, and

to remodel resource usage patterns are known in literature as digital transformation, per Kargas et al. (2023). In the view of Satalkina and Steiner (2020), digital transformation is linked to means of communication, as well as networking and flows of information. Analogously, Reis and Melão (2023) refer to the organisational, technological, and social constructs as significant elements for the digital transformation. Oppositely, the research of Cristache et al. (2024) correlate digital transformation with a risk-taking attitude, since digitally savvy organisations look for new competitive advantage levels.

From an economic perspective, digital technologies allow easy and convenient initiation of businesses (Berman et al., 2024), and favour social innovation opportunities and the obtainment of competitive advantage (Karajz, 2021; Verdeş et al., 2024). From the social progress stance, Zavatin et al. (2023) and Antoniuk and Davydenko (2024) indicate that the United Nations pointed out through the 2030 Agenda for Sustainable Development that digitalisation brings enhancing effects to the human condition and it can catalyse the realisation of the SDGs. The work of Gheorghe (2024) even refers to the notion of digitainability, that is a mixture of digitalisation and sustainability.

The concern of the European Union with respect to digitalisation is depicted through the launch of the Digital Single Market strategy in 2015, which fosters digitalisation and digital competitiveness, as well as by the formulation of the Digital Economy and Society Index, abbreviated as DESI, that enables progress assessment in this field (Anton, 2024; Gherghin, 2025). Furthermore, the EU formulated in 2020 the Digital Decade project, that aimed to leverage the enhanced managerial practices contained by digitalised entities (Vavura & Matei, 2024). Another noteworthy initiative of the EU to encourage digital transformation is NextGenerationEU, as shown by Miron et al. (2024).

2.2. Implications of Digitalisation and Digital Transformation for Entrepreneurship and Social Entrepreneurship

Entrepreneurs build organisations that make the most of the digital ecosystem and produce results that are noteworthy (Biclesanu & Dima, 2021), the reshaping of the production and delivery of customer value being noticed through digital technologies' feature of permitting business model innovation (Autio et al., 2024). By making digitalisation a key pillar, organisations can hence produce the most efficient business concepts (Khanzada et al., 2023). The adherence to digital technologies also enables the appearance of digital alliances, digital platforms, and digital infrastructure (Sharma et al., 2023).

Among the downsides of digitalisation, the work of Dumitra (2024) mentions the cost of implementation, cybersecurity risks, data confidentiality and compliance, and the adversity to change. To complete the picture on the advantages and disadvantages of digitalisation, it is needed to look at the global spending on digital transformation in the timeframe 2017-2027 (Figure 1), data by Statista (2024) showcasing a forecasted value of 3,9 trillion US dollars for this indicator.

Organisations cannot rejoice the advantages of digitalisation solely through the interaction with a digital environment (Pérez-Valls et al., 2024), as the value creation process highly relies on how digital technologies are employed in a particular context by organisations (Högberg & Willermark, 2022). To achieve an efficient digital journey, organisations reside on a digital strategy, that helps to set objectives, assess arising risks, determine needs, and sketch a digital transformation roadmap (BDO Canada, 2024). Expressed differently, the digital transformation strategy is a surefire tool that proves measurable and impact-generating actions operated to clear out essential objectives (White, 2024).

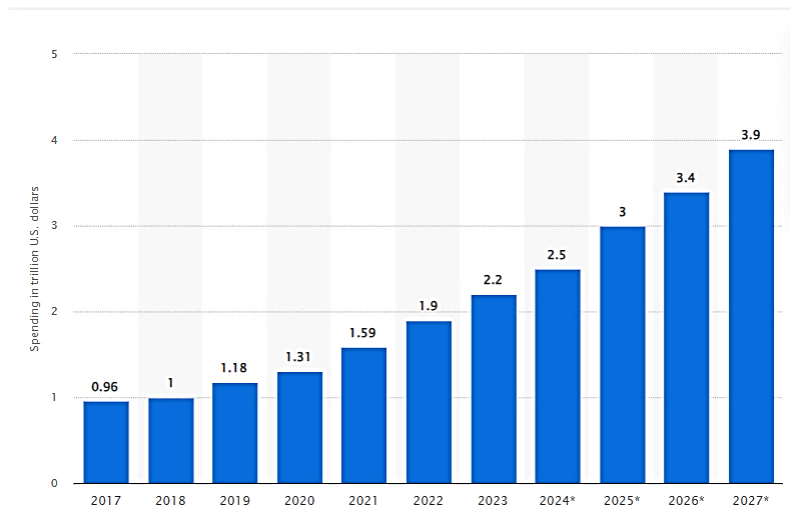


Figure 1. The global spending on digital transformation technologies (2017-2027), in trillion US dollars
Source: Statista (2024).

Supplementary to the emphasis on digital technologies, the tendency of people to display a socially-conscious behaviour has been manifested in the last years, this allowing for phenomena such as social entrepreneurship (Del Giudice et al., 2019). Researching on social entrepreneurship, the work of Petrella and Richez-Battesti (2014) defines it as all the entrepreneurial activities conducted to support a social mission and whose profit is reincluded in performing that specific mission. As Rwehumbiza and Hyun (2024) specify, social entrepreneurship devotes its efforts to create communities that are steadier from the economic, social, and environmental viewpoint. Social entrepreneurs are part of innovation activities (Skivko, 2022) and according to Akther et al. (2024), digital technologies boost the opportunities that social entrepreneurs can access, opening their way to novel resolutions and the scale up of their activities (Kalendzhyan & Kadol, 2023; Torres & Augusto, 2020). Moreover, by embodying digitalisation, social entrepreneurs can better communicate and co-develop value with their stakeholders (Mursalzade et al., 2023), thus increasing their social impact and operational efficiency (Boulkhir & Touhami, 2024). In addition, Chebo and Dhliwayo (2024) claim that the fusion between social innovation and digital technologies is needed so that social enterprises can develop. Similarly, Chandna (2022) recognises the connection between the development of digital technologies and the upshift of social entrepreneurship.

The research of Ghatak et al. (2023) views digital social entrepreneurship as the future of social entrepreneurship, and according to Yáñez-Valdés et al. (2023), digital social entrepreneurship emerged along with the COVID-19 pandemic. Two particular ways in which social entrepreneurs can integrate digital technologies in their pursuits are, according to Gagliardi et al. (2020), digital social platforms, that can be helpful in triggering community engagement and managing organisational redundancies, while the second tool, advanced technologies, can become the backbone of complex digital ecosystems.

By reason of the strain of keeping the pace with technological novelties (Pankaj & Seetharaman, 2021), social entrepreneurs use information technologies to a great extent, however there is still insufficient research conducted to understand the particular impact of

digitalisation on performance, profitability, and supply chain in this field (Chebo & Dhliwayo, 2024). Reinforcement for this statement is supplied by Faludi (2023), who highlights that the social-innovation-fostering technology and the technology that propels social transformation from a meso-micro approach have yet to be researched. The topic is a highly meaningful one, as research by Kotiranta et al. (2024) reveals that social enterprises are early adopters of digitalisation, believe that digitalisation presents advantages for them and are willing to invest more in such actions compared to commercial enterprises. According to ADV Romania (2024), a powerful example of an EU co-founded project approaching sustainability, digital transformation, and social economy competitiveness is SocialTech4EU, whose generated impact tackled digital knowledge creation and a nurturing ecosystem for social enterprises in terms of digital innovations, and the offering of training and acceleration grants.

3. Methodology

In order to gain deeper insight into the developing interest for the study of the role of digitalisation in social entrepreneurship, especially in a European research context, this paper takes a more restrictive approach to bibliometric analysis compared to previous studies such as Chebo and Dhliwayo (2024) or El Maaqili and Ouchen (2024).

The aforementioned papers already present the growing interest in this particular area of scientific research and general developments however they do not cover specific evolutions over time. This paper's approach to bibliometric analysis is primarily targeted at offering a specific overview of which particular subject areas related to social entrepreneurship and digitalisation are the most popular in current research.

3.1. Database Selection and Filtering

This paper makes use of the Clarivate (Web of Science) and Scopus databases of academic literature in order to capture the full picture of top academic publications' interest in the subject of analysis. The final extraction of the databases was done on January 25th, 2025, point at which there were no publications considered beyond 2024.

In order to collect the relevant data, rather than standard database filtering based on subject matter, it has been decided to take a different approach and utilize a very restricted query that ensures the inclusion of articles that may not have been included in non-economic queries, but which still deal directly with the role of digitalisation in social entrepreneurship.

- Basic query: digitali* "social ent*"
- Advanced query Web of Science: ALL=(digitali* "social ent*")
- Advanced query Scopus: TITLE-ABS-KEY(digitali* and "social ent*")

The utilisation of these queries produces all academic publications registered in the relevant databases that deal directly with the issue of digitalisation, including its equivalent spelling form and also specifically mention "social enterprise" or "social entrepreneurship" in their introductory fields, thus ensuring that the search includes all papers that may deal with non-economic focuses in terms of research, but are by definition related to entrepreneurship through its targeting. Thus, we may have engineering or medical papers that present solutions or concerns for the digitalisation of social entrepreneurship and which in the authors' opinions should be included in any mapping of the interest in this field of study.

3.2. Bibliometric Analysis

The extracted databases were put through bibliometric analysis using VOSviewer 1.6.20 software and employing the following methods:

- Co-occurrence analysis: registered keywords for the relevant publications were mapped based on how often they appear together. The minimal threshold for display was set at 2 in order to avoid graphical cluttering and extract items of most interest. In addition, average publication year mapping was employed.
- Bibliographic coupling based on country: registered bibliographic references are mapped based on their shared geographic origin.
- Co-authorship analysis based on country: registered authors are mapped based on their affiliation origin.

Overall, the bibliometric analysis aims to achieve two improvements over existing analyses on the subject: the identification of the most recent directions and specialisations that academics are directing their research efforts towards and the identification of potential specific geographic nuclei of interest in this research which may produce developments in terms of social entrepreneurship in the future.

4. Results and Discussions

The database queries have produced 48 and 81 relevant results for the Web of Science and Scopus databases respectively. It should be noted that while the same increasing trend of publications was indicated by previous papers, the relevant sample size produced is much lower despite an extra year of publications added to the analysis.

The first thing to note is that compared to previous literature, our restricted query method, despite no additional filtering, has produced a sample size of publications that is much lower than indicated in previous articles, 599 (Chebo & Dhliwayo, 2024) and 411 (El Maaqili & Ouchen, 2024), both articles using the Scopus database. This result indicates that there may potentially be a significant amount of extraneous data included in previous analyses which may only be tangential to the specific subject matter.

4.1. Co-occurrence Analysis

Based on the keyword analysis for the selected literature we have found that while specific literature on digitalisation in social entrepreneurship is accelerating, it is also rapidly becoming far more targeted on specific issues as seen in Figure 2.

Based on the analysed data we can notice that literature has quickly moved away from research on the macroeconomic aspects of the role of digitalisation in social entrepreneurship and the indicated by terms such as “digital economy” and “social problems” which have a lagging average date of publication, within a span of just three to four years. The most recent focus of researchers seems to be heading in a more practical direction, analysing aspects such as “social business”, “social value creation”, and “performance”.

The same analysis conducted on the Web of Science database shows similar results, with the practical aspects of current research being even further emphasised by publications dealing with “value creation” and “business models” in addition to “management” and “dynamic capabilities” as can be seen in Figure 3.

Of distinct note is that despite that rapid progress of this field of research, there is a distinct lack of publications dealing with any kind of specific modelling nor does there seem to be any significant amount of research in terms of the governmental side of things, namely the impact of support programmes for social enterprises in terms of digitalisation nor does there seem to be a significant number of research publications dealing with the impact of digitalisation or lack thereof in specific case studies or examples.

4.2. *Geographic Analysis*

Mapping the geographic spread of interest into the digitalisation of social enterprises we have taken a two-pronged approach. First of all we have mapped the interest of researchers themselves based on their country, which can be seen in Figure 4 according to the Scopus database using a 2 occurrence minimum per country. As such, we can notice that digitalisation and social entrepreneurship seems to be primarily a priority of researchers from the European general area with India, Saudi Arabia, and Australia as notable additions.



Figure 4. Authorship by country (Scopus database)

Source: Authors' own research.

What we can notice is that in recent years, as research in this field has accelerated, we now have significant cross-border collaborations on research, with a distinct cluster of co-authorship forming around India. Taking a closer look at that cluster in Figure 5 we notice that it is still European nations that form the majority of its constituents but that the actual core link

in this cluster is represented by United Kingdom-affiliated researchers. This would indicate that researchers in developed countries may frequently partner with researchers from developing countries in order to conduct research on social entrepreneurship. However, what is more important is the possibility that there are certain distinct approaches to social entrepreneurship and digitalisation in this UK-linked Nordic, Eastern European, and Indian cluster which may arise as a result of the research.



Figure 5. Co-authorship cluster by country (Scopus database)

Source: Authors' own research.

Conducting the same analysis on the Web of Science database in Figure 6 we can notice a similar dominance of European-based researchers in this field with some more recent additions of Middle-Eastern and Southeast Asian but also the notable addition of North African researchers' interest in our chosen subject.

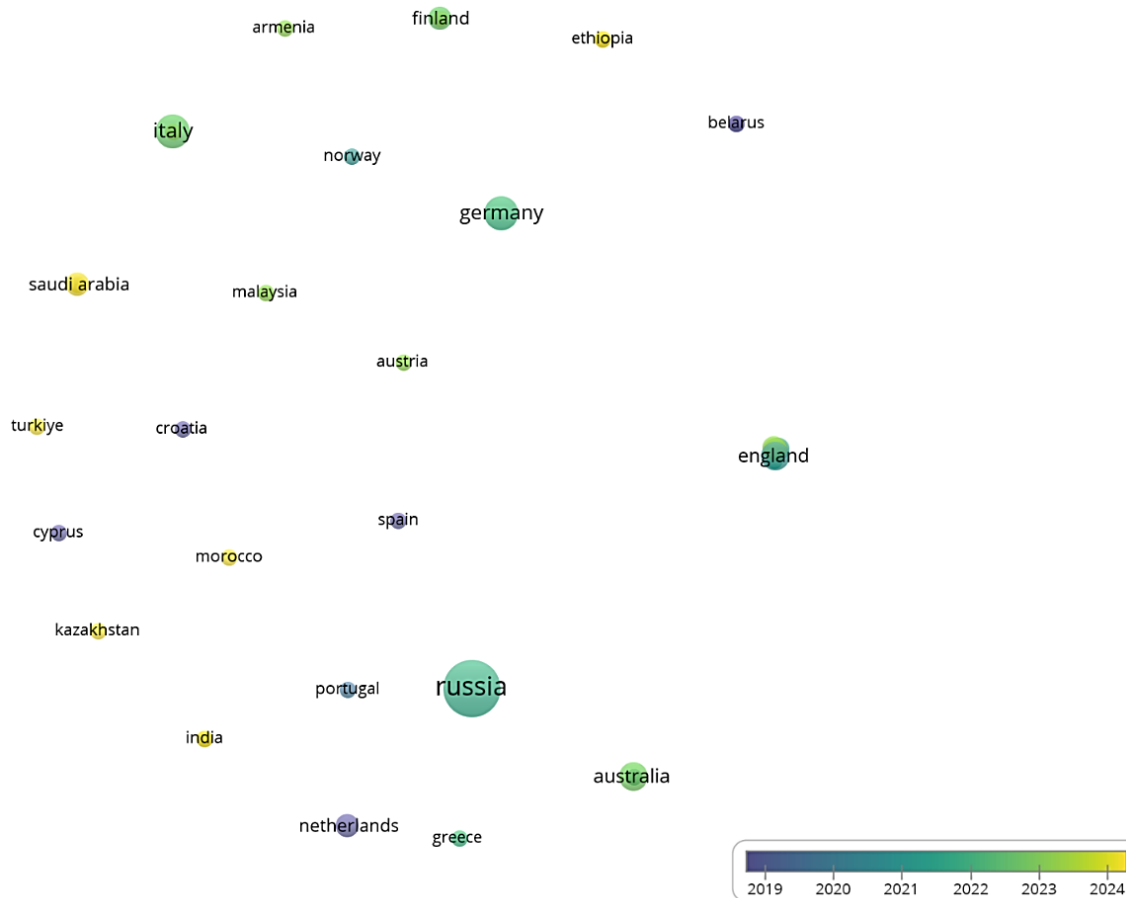


Figure 6. Authorship by country (Web of Science database)

Source: Authors' own research.

In similar fashion to the Scopus results, we can notice a cluster of co-authorship based around the UK currently giving significant interest to researching social entrepreneurship digitalisation. Taking a closer look at this cluster in Figure 7 we can see that Southeast Asian interest in this subject matter is more pronounced and widespread in the region than initially indicated.



Figure 7. Co-authorship cluster by country (Web of Science database)

Source: Authors' own research.

While the trend of developed country researchers partnering with those in less developed areas of the globe is maintained, additional meaning can also be implied in the sense that social entrepreneurship is seen as a potential solution of interest to economies suffering from lagging development and the digitalisation of social enterprises may be seen as the key for more widespread creation and implementation of social entrepreneurship programmes.

Looking further at bibliographic coupling by country we can notice that the previously mentioned possibility of distinct approaches to digitalisation in social entrepreneurship developing based on different geographic areas is higher than would be indicated by just the co-authorship analysis. As seen in Figure 8, there seems to be a distinct polarisation of bibliographic influence between USA and UK-driven research and its influence on Southeast Asian publications and European driven research and its influence on more recent Middle-Eastern-based research.



Figure 8. Bibliographic coupling by country (Web of Science database)

Source: Authors' own research.

Conducting the same analysis on the Scopus database in Figure 9 we can notice that, in addition to the seeming geographic polarisation of research influence between Europe and the

UK and US, there is a distinct subbranch of Eastern European research in this field with additional Northern European influences.

Overall, the geographic analysis indicates that not only is research into social entrepreneurship and digitalisation increasing, but it also gradually spreading across the globe. Unfortunately, we can also note that Africa is underrepresented in this type of research while South-American research seems to have minuscule interest and influence in this subject matter meaning that they are not really looking into the digitalisation of social enterprises or they do not see it as a significant enough factor for their economies in order to elicit top tier researchers to invest time in the subject.

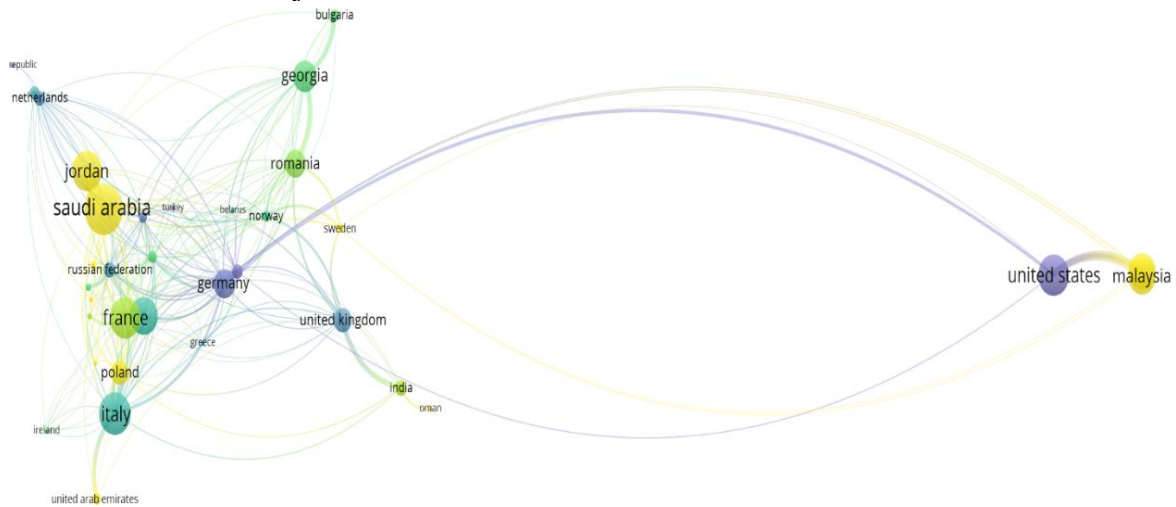


Figure 9. Bibliographic coupling by country (Scopus database)

Source: Authors' own research.

The paper's findings revealing increasing research interest for the digitalisation of social entrepreneurship are thus in line with the works of Akther et al. (2024), Kalendzhyan and Kadol (2023), and Torres and Augusto (2020), who postulate on the valuable impact held by digital technologies in mapping opportunities and scaling up operations. The research results also find adherence to Chandna (2022), who underline the link between digital technology development and social entrepreneurship. The research results align with previous studies (Mursalzade et al., 2023; Boulkhir & Touhami, 2024), whose work claims that social entrepreneurs' communication with stakeholders is refined by digital instruments, ultimately boosting their generated impact. Finally, the findings are coherent with Kotiranta et al. (2024), who display social enterprises as early adopters of digitalisation.

5. Conclusion

In the end we can conclude that the digitalisation of social enterprises represents an increasing priority for the current academic environment and an evolving interest for growing number of economic areas of the developing world.

Not only is interest in social enterprises and their digitalisation growing, but research has very rapidly moved past the theoretical and initial framing of the issue and is now moving into practical aspects of the subject, assessing the impact and value of digitalising or digital social enterprises for economic development, which is a clear sign of a growing, more responsible, and socially innovative business environment.

Further, while it is currently underrepresented in literature and more towards the sustainability aspects of social business models, there are distinct signs that research in this field is moving towards the development of specialised models to aid the digitalisation of enterprises. This can be seen from the recent research interest given to management, dynamic capability development, and performance as distinct subjects of recent academic publications which were previously noted as lacking development by Chebo and Dhliwayo (2024) just one year before. This is another aspect which denotes the high speed at which this research topic is currently being developed by academics.

The spreading interest in this subject is encouraging for an increasingly socially responsible economic development across the globe. In particular we have seen a significant spread of interest in this issue in the Middle-East and South-East Asia, with initial interest also developing in parts of Northern Africa while Europe remains a major core of development and sustained attention given to this subject. This indicates that these areas can be regarded as potential nuclei of future developments in the field, which is perhaps unsurprising as they are by nature also the areas that can potentially benefit the most.

Overall, there seems to be a polarisation of research leading us to believe that there may be a development of different general approaches or schools of thought on the digitalisation of social enterprises, which is perhaps stemming from differing historical economic development. These differing approaches seem to be developing between the US together with the UK, with their publications influencing upcoming research in South and South-East Asia, and Europe, with European publication carrying significant influence on recent research conducted in the Middle-East and North Africa. This trend perhaps makes sense if we are to view it in the context of economic proximity which provides some evidence that the integration of social enterprises requires differing approaches based on the economic context and organisation of the region it is applied in rather than necessarily the level of development of that region.

Of particular interest is that US- and UK-based academics seem to pair often with researchers in developing regions to conduct research on the subject, which should encourage researchers in developing countries, especially South-East Asia, to seek research partnerships in those two countries in order to better and successfully develop their research ideas. The European area on the other hand seems to have recently developed a clustered branch of interest social entrepreneurship centred around Eastern Europe, particularly Romania, Bulgaria, and Poland with growing Northern European interest in Sweden, Finland, or Norway, which may lead to a potentially distinct core of research development from those regions but also indicates that these regions have some level of mutual support in the development of research on social enterprises.

Of course, the conclusions gathered can be considered to be context limited. Bibliographic analysis by its nature can only identify general trends in research and in the case of the geographic trends identified above for example, they only apply on the assumption that authors will naturally gravitate towards relevant bibliography that is closest to their local needs. At the same time, key word analysis depends heavily upon the completeness, relevance, and accuracy of the terms used by the authors. However, we can definitely say that the growing interest in the digitalisation of social enterprises brings with it hope for increased development speed and innovation in this field, which might accelerate the implementation of social enterprises in more countries thus also increasing the rate at which social issues ameliorate within those economies.

Thus, the findings of the study can be of immediate use to academics in the field of social entrepreneurship, with the clear indication that future research in the field should focus on practical aspects of digitalisation for social enterprises, starting from the establishment of

best practices and the identification of digitalisation needs and conditions specific to social entrepreneurship, with eventual movement into the development of digitalisation models, all of which would be of great benefit to social enterprises themselves. In addition, with the spread of social entrepreneurship, geographic specificities, and their impact on the digitalisation of social enterprises is likely to be another major and potentially more long-term research direction especially in South-East Asia, Middle East, and Eastern Europe, which would be of benefit to policymakers, who, based on this research, can generate clear digitalisation policies for social enterprises, adapted to the needs and profile of these entities.

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