

Money Matters in Social Innovation: Exploring Social Innovation Revenue Models through Bibliometric Analysis

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Abstract

This study aimed to investigate revenue models in social innovation, which play a critical role in ensuring financial sustainability. Through a bibliometric analysis of the research literature on this topic, the study aimed to identify gaps in knowledge, significant contributors, emerging trends, and areas for future research. The methodology involved a systematic review of the literature using the Web of Science database and bibliometric techniques such as citation and co-citation analysis and dynamic co-citation analysis. The study's findings revealed four critical thematic areas, including "Business Models for Social Innovation: Frugal and Sustainable Approaches," "Exploring Revenue Models of Social Innovation: Insights from B Corps and Circular Start-ups," "Exploring Revenue Models and Business Model Innovation in Social Enterprises and Sustainable Entrepreneurship," and "Exploring Business Models for Social Impact and Well-being." The analysis also identified research gaps within these themes and proposed potential avenues for future research. This paper analyzed the literature on revenue models for social innovation using bibliometric methodology, identifying major contributors, influential articles, and key themes. Four thematic areas are identified, with research gaps and potential avenues for future research. The study provides a roadmap for future researchers interested in social innovation impact assessment and suggests incorporating articles from other databases to broaden the scope of the study.

Keywords:

Social innovation revenue models, social business models, bibliometric analysis, social innovation, frugal innovation.

Introduction

Social innovation is an important aspect of modern business. Unlike traditional business innovation, social innovation aims to create value for society as a whole (Nazari et al., 2022). However, social innovations need sustainable and reliable revenue streams to be effective and impactful in the long term. This is where income models for social innovations come into play. Income models for social innovations help to ensure their financial viability and sustainability. Revenue models are the strategies and approaches used to generate income or funds to sustain the operations and activities of a social innovation. Effective revenue models are critical for the success and sustainability of social innovations (Audretsch et al., 2022).

Social innovations have the potential to create significant social impact and improve the lives of individuals and communities. However, without sustainable and reliable revenue streams, social innovations may not be able to achieve their full potential. Therefore, the development of effective revenue models for social innovations is critical for their success and sustainability (Neligan et al., 2022). Revenue models can enable social innovation initiatives to operate even after initial funding sources are depleted, as well as facilitate their growth and expansion. By providing alternative sources of income, revenue models can promote sustainability, scalability, innovation, collaboration, impact, accountability, and adaptability (Fursov & Linton, 2022).

In addition, past research has underlined the significance of producing sustainable money for social initiatives to continue and increase their impact. (Escribano & Gonzalez, 2022; Henry et al., 2023; Rivna & Gress, 2022; Zhu & Cunningham, 2022) A detailed and systematic evaluation of the present state of research on revenue models for social innovation can provide significant insights into the current state of research and suggest areas in need of additional study (Blasi & Sedita, 2022). A bibliometric examination of the research literature on revenue models in social innovation can contribute to addressing many knowledge gaps in this topic by identifying research gaps and opportunities for additional investigation, hence enhancing understanding in this area.

It has been demonstrated in previous studies that revenue models play a significant role in social innovation initiatives. This has been emphasized in previous research. Such projects depend heavily on the generation of sufficient revenue to be able to sustain themselves and remain viable over the long term. Several studies have demonstrated that revenue generation and diversification of income streams play an important role in sustaining the social impact of nonprofit organizations. For example, Bozhikin et al. (2019) explored revenue models in social entrepreneurship and found that diversification was crucial for sustaining social impact. Similarly, Breier et al. (2021) highlighted the importance of revenue models in business model innovation for health related social innovations. It is essential to review the literature on revenue models in social innovation to ensure the generation of sustainable revenue for social initiatives, enabling them to continue and expand their impact. Thus, this bibliometric literature review aims to provide valuable insights into best practices, challenges, and opportunities for revenue models in social innovation.

Conducting a bibliometric analysis of the research literature on revenue models in social innovation can significantly contribute to addressing several knowledge gaps in this field. Firstly, it can offer a comprehensive and systematic overview of the state of research by highlighting significant contributors, institutions, and emerging trends (Mishra et al., 2022). This can provide valuable insights into the current state of research and highlight areas that

require further attention and investigation. Secondly, bibliometric analysis can inform evidence-based decision-making by identifying research gaps and areas for further inquiry, thereby advancing knowledge and understanding in this area. Finally, such an analysis can help promote a more integrated and comprehensive approach to social innovation revenue models by bridging disciplinary divides and encouraging interdisciplinary collaborations (Mitra et al., 2022). In conclusion, the use of bibliometric analysis can provide crucial support to the advancement of knowledge and understanding in this important area of social innovation.

Three research questions can guide further inquiry into social innovation revenue models. The first question is focused on identifying the main contributors to the advancement of research on the public acceptance of these models. The second question aims to identify the primary themes covered in studies on social innovation revenue models. Finally, the third question seeks to identify important topics for future research that could be proposed to researchers studying the topic of social innovation revenue models. However, despite the growing interest in revenue models in social innovation, there are still several knowledge gaps in this field that require further investigation. To address these gaps, three research questions can guide further inquiry into social innovation revenue models

To investigate the research questions related to social innovations revenue models, a bibliometric analysis of a literature sample will be conducted using the web of science database (Chu et al., 2022). Bibliometric analysis is a useful method to summarize existing research on a specific topic (Chu et al., 2022; Khanra, Dhir, Kaur, et al., 2021; Khanra, Dhir, Parida, et al., 2021; Xu & Lin, 2021). The first research question will be answered by following the bibliometric protocol that is based on Khanra, Dhir, Parida, et al. (2021). This protocol also includes a co-citation analysis phase to address the second research question, which aims to identify the primary thematic areas of social innovations revenue models, including the development of evaluation frameworks. The evolution of these themes will be analyzed using a dynamic co-citation analysis (Chen et al., 2010; Khanra, Dhir, Parida, et al., 2021). The third research question will be answered by examining the methodology and content of selected articles. This study reveals the fragmented and inconsistent nature of the literature on social innovations revenue models.

Despite the increasing interest in social innovation revenue models, a thorough study of the research trends, themes, and gaps in this field is lacking. While some research has examined the significance of income production in assuring the financial sustainability of social innovation initiatives (Costanza, 2023; Escribano & Gonzalez, 2022; Levanen et al., 2022; Zhu & Cunningham, 2022), a full bibliometric analysis synthesizing the available literature on revenue models in social innovation is necessary. Our work intends to address this deficiency by conducting a thorough literature review on social innovation revenue models, providing insights into best practices, obstacles, and prospects for revenue models in social innovation.

1. Methodology

Systematic literature reviews are commonly used to identify gaps in research areas (Tranfield et al., 2003). Bibliometric analysis has been employed by researchers in various fields of business and management to study topics such as marketing evolution (Faruk et al., 2021),

corporate social responsibility in supply chain management Feng et al. (2017), and business ethics with an accounting focus Özmen Uysal (2010). Techniques such as bibliographic coupling, citation and co-citation analysis, and co-word and co-authorship analysis have been used in bibliometric analysis studies (Xu et al., 2018). We based our bibliometric analysis process on the model from Khanra, Dhir, Kaur, et al. (2021) (Figure 1), which has proven effective in bibliometric analyses (Khanra et al., 2020; Khanra, Dhir, Kaur, et al., 2021; Khanra, Dhir, Parida, et al., 2021).

To conduct a comprehensive bibliometric analysis for this study, we utilized VOSviewer and Gephi software. VOSviewer was used for citation analyses, bibliographic coupling, co-authorship analysis, and co-word analysis, while Gephi was employed for prestige analysis, co-citation analysis, and dynamic co-citation analysis. These tools enabled us to conduct a thorough analysis of the literature related to our research topic (Khanra, Dhir, Kaur, et al., 2021).

2. Mapping the literature

3. Literature selection

The study of revenue models for social innovations is a challenging endeavor due to its interdisciplinary and multifaceted nature, making categorization and comparison difficult. Additionally, the lack of a clear and consistent scale for these models complicates the identification of relevant studies in the field, as keywords may have divergent meanings in other areas. To overcome these obstacles, we employed a protocol that was based on the protocol of Khanra, Dhir, Kaur, et al. (2021) that involves three phases: scanning, curating, and reporting. To facilitate this process, we conducted a systematic search of the Web of Science database, a recognized source of comprehensive academic literature (Chu et al., 2022), and selected relevant articles for our study. This approach enabled us to effectively manage the challenges associated with the fragmented and diverse nature of research on social innovation revenue models, and identify appropriate studies for bibliometric analysis. The importance of using systematic and rigorous protocols for literature selection in bibliometric studies is underscored by our experience. Moreover, the Web of Science database proved to be a valuable resource in identifying relevant literature.

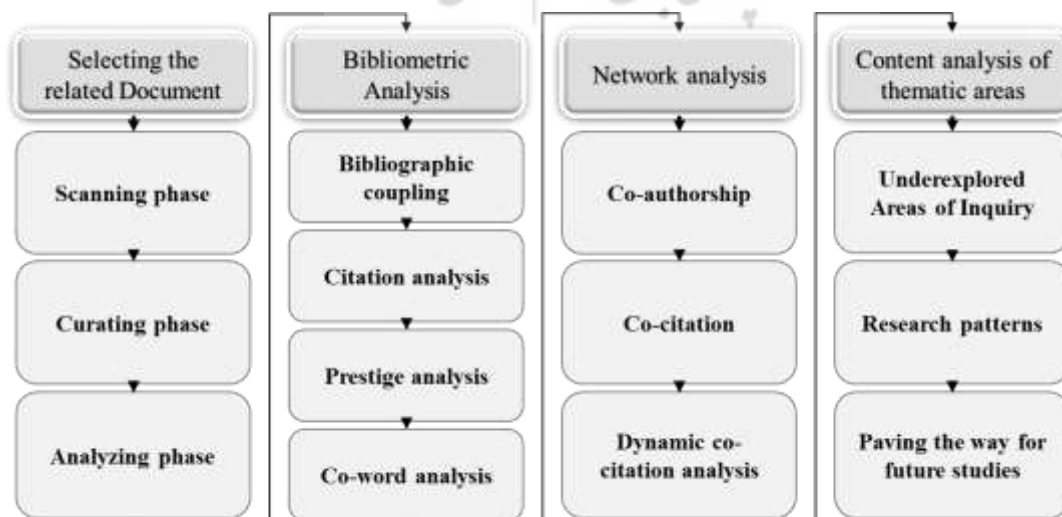


Figure 1 bibliometric analysis protocol (based on (Khanra et al., 2021))

4. Scanning phase

Our preliminary study revealed that the literature on revenue models for social innovations commonly used terminology such as "social innovation," "frugal innovation," "social entrepreneurship," and "collective impact," as identified through a preliminary search of the Web of Science database (WOS). However, "social innovation" was the most prevalent term used. Given the lack of consensus among scholars regarding the definition of social innovation, we employed a systematic approach to search for relevant literature in WOS. To refine our results, we also included search terms for "revenue model." Through this method, we identified 329 publications, including journal articles, reviews, and other document types, related to the assessment of social innovation (Table 1). This comprehensive approach enabled us to effectively locate and categorize pertinent literature in this fragmented field.

5. Curating phase

After analyzing the previous phase of our study, we moved on to conduct a systematic analysis. To enhance the quality of bibliometric insights, we limited our search to only articles and early access articles and book chapters while excluding book reviews, proceedings papers, and editorial materials. To identify relevant literature on social innovations, we used a combination of search queries in the advanced search of the web of science (Table 1). Furthermore, we included a search query for "revenue model." By combining these two sets of search queries, we retrieved 329 articles for analysis. To ensure the accuracy of bibliometric data, we utilized both "EndNote desktop" and "Plain text file" styles for storing and managing the sample.

Table 1 Search query (As of March 14th, 2023)

Num	Search query	Number of results
1	TS=("social innovation" OR "frugal innovation" OR "Social entrepreneurship" OR "Collective impact" OR "Social change" OR "Social impact" OR "Social transformation")	44,663
2	TS=("Business plan" OR "Business model" OR "Earnings model" OR "Income model" OR "Monetization strategy" OR "Pricing model" OR "Profit model" OR "Revenue generation" OR "Revenue stream")	27,177
3	#2 AND #3	375
4	#2 AND #3 AND Article or Proceeding Paper or Book Chapters or Early Access (Document Types) AND Article or Proceeding Paper or Book Chapters or Early Access (Document Types) and Review Article (Exclude – Document Types) AND Editorial Material (Exclude – Document Types) AND Article or Proceeding Paper or Book Chapters or Early Access (Document Types) AND Review Article (Exclude – Document Types) AND Editorial Material (Exclude – Document Types) AND English (Languages)	329

6. Analyzing phase

The findings of our study indicate that social innovation revenue models represent a relatively new area of interest for social and management studies. Our systematic analysis of

studies published between 2002 and 2023 (Figure 2) revealed a consistent rise in the number of articles on this topic, with a notable surge in 2016 and a sustained upward trend in recent years. Most publications were issued between 2016 and 2021, which suggests an increasing interest in this field. Our analysis also highlighted the collaborative and interdisciplinary nature of social innovation revenue model studies, as demonstrated by an average of 2.88 co-authors per document and 0.383 documents per author. The global and interdisciplinary nature of the field is further supported by the fact that the authors of the 329 analyzed articles were affiliated with 456 different universities and organizations from 66 countries. The multi-disciplinary and diverse nature of the field is also reflected in the fact that the 329 articles were published in 229 different publication titles. Additional information regarding the top countries, authors, affiliated organizations, and publication titles in the field can be found in Table 2 and Table 3.

7. Bibliographic coupling

Bibliographic coupling, a technique introduced by Kessler in the 1960s, has been widely used to gather valuable information and identify trends in academic and technical studies. In our study, we present two tables, Table 2 and Table 3, that highlight the significant authors, organizations, countries, and journals that have contributed notable papers to our sample. Our analysis showed that Dimitris Mourtzis, Mokter Hossain, and Marek Ćwiklicki had the most published paper authors in the field of social innovation revenue models. Furthermore, among the 456 universities and institutions studied, Politecnico di Milano (Italy), Tecnológico De Monterrey (Mexico), and the Delft University of Technology (The Netherlands) were identified as the most influential contributors to the literature. In terms of countries, the United States had the most influence on the literature related to social innovation revenue models, followed by China and England. However, some critiques of bibliographic coupling have pointed out that it relies solely on published articles and does not consider the quality of those articles, which may affect its effectiveness (Khanra, Dhir, Parida, et al., 2021).

Table 2 The individuals, countries and organizations who have made the most contributions in terms of the number of publications they have authored.

Countries	Freq.	total link strength	Authors	Freq.	total link strength	Organizations	Freq.	total link strength
The US	38	13558	Dimitris Mourtzis	5	951	Politecnico di Milano (Italy)	7	1684
England	35	10798	Mokter Hossain	4	1541	Tecnológico De Monterrey (Mexico)	6	2686
Italy	35	14902	Marek Ćwiklicki	3	1654	Delft University of Technology (The Netherlands)	5	1935
Netherlands	25	8752	Katerina Vlachou	3	473	Eindhoven University of Technology (The Netherlands)	5	1746
Germany	22	8903	Venkata Bandi	2	1580	University Of Patras (Greece)	5	349
Peoples Republic of China	21	3386	Andres Barrios	2	1903	Harvard University (The US)	4	2245
India	19	3983	Julia Bendul	2	1472	Qatar University (Qatar)	4	1259

Countries	Freq.	total link strength	Authors	Freq.	total link strength	Organizations	Freq.	total link strength
Spain	16	4541	Marta Gasparin	2	1987	Erasmus University Rotterdam (the Netherlands)	3	1972
Australia	12	5281	Christos Giannoulis	2	361	LUISS Guido Carli (Italy)	3	2117
France	12	6206	Florian Luedeke-freund	2	1468	Aalto University (Finland)	3	1024

Table 3 Top 10 Journals contributing to social innovation revenue models

Publication Titles	Record Count	% of 329
Sustainability	27	8.21
Journal of cleaner production	18	5.47
Journal of business research	8	2.43
Technological forecasting and social change	8	2.43
International journal of entrepreneurial behavior & research	4	1.22
Journal of business ethics	4	1.22
Corporate social responsibility and environmental management	3	0.91
Entrepreneurship research journal	3	0.91
Journal of entrepreneurship in emerging economies	3	0.91
Journal of social entrepreneurship	3	0.91

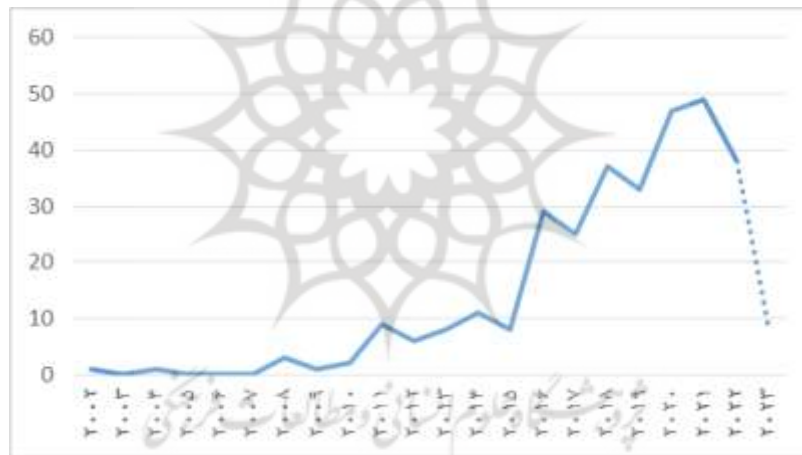


Figure 2 Number of published articles per year (As of 13 March 2021)

8. Citation analysis

Citation analysis is a common method used in previous studies to evaluate the importance of a particular publication by measuring its frequency of citation in other articles, However, it is not the only method available to evaluate the significance of a publication (Ding & Cronin, 2011). Table 5 presents the top ten countries, authors, and organizations based on their total link strength, which is another method used in this study. According to this method, Germany, Italy and Netherlands are the top three countries, while the most highly cited authors are Dimitris Mourtzis, Frank Boons, and Florian Luedeke-freund. Erasmus University Rotterdam (the Netherlands), INSEAD (International), and the Leuphana University of Lüneburg (Germany) are the most influential organizations (Table 4). Although citation analysis has its benefits and is widely used, it also has criticisms, such as only taking

into account the number of citations and not the prestige or popularity of the publication (MacRoberts & MacRoberts, 2018).

Table 4 Top 10 contributors in the case of citation analysis

Country	Total link strength	Author	Total link strength	Organization	Total link strength
Germany	84	Dimitris Mourtzis	63	Erasmus University Rotterdam (the Netherlands)	44
Italy	83	Frank Boons	45	INSEAD (International)	42
Netherlands	80	Florian Luedeke-freund	45	Leuphana University of Lüneburg (Germany)	37
USA	78	Filipe M. Santos	40	Qatar University (Qatar)	27
France	67	Eleni Vlachou	39	he Delft University of Technology (the netherlands)	26
England	65	Mokter Hossain	37	Boston University (The US)	25
Australia	31	Vasileios L. Zogopoulos	34	University of New Hampshire (The UK)	24
Qatar	26	James E. Post	33	University Of Patras (Greece)	23
Sweden	26	Fiona Wilson	33	Jacobs University Bremen (Germany)	19
India	25	Cees Van Beers	26	Aalto University (Finland)	18

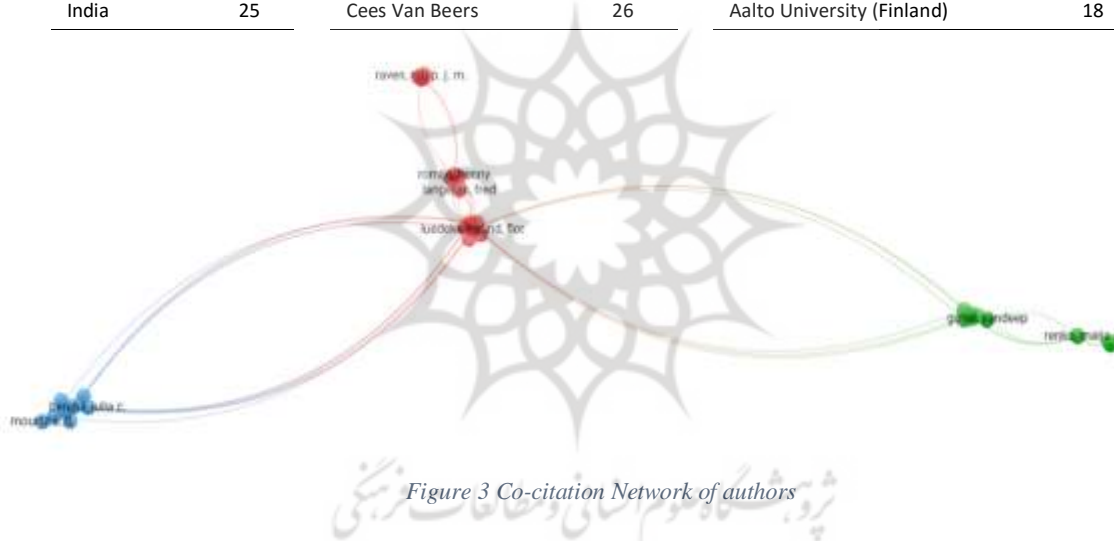


Figure 3 Co-citation Network of authors

The visual representation in Figure 3 reveals a co-citation network of authors, characterized by distinct clusters. As demonstrated, the network is organized into five separate clusters, each comprised of interlinked articles and authors that share a common research focus. The presence of these clusters indicates the existence of cohesive and interconnected research communities within the field of social innovation revenue models. This finding highlights the importance of collaboration and knowledge-sharing among researchers in this area.

9. Prestige analysis

Determining the impact of scientific papers depends significantly on their prestige. Assessing the impact of scientific papers relies heavily on their prestige, which can be evaluated by measuring their citation frequency in highly cited publications, as proposed by Ding et al. (2009). This method provides a more accurate measure of a paper's importance within its

field compared to citation analysis, which only takes into account the number of citations. It should be noted, however, that there is not always a direct relationship between a paper's citation count and its prestige. PageRank is a measure that can determine both prominence and popularity. Initially developed to rank web pages in search results, PageRank can also identify citation links between papers (Bianchini et al., 2005). Various studies have utilized PageRank to measure the prestige of papers in specific scientific domains (Khanra, Dhir, Parida, et al., 2021; Xu et al., 2018). In our study, we use a formula that calculates the prestige of papers based on their PageRank score.

$$PR(A) = \frac{(1 - d)}{N} + d \left(\frac{PR(T_1)}{C(T_1)} + \dots + \frac{PR(T_n)}{C(T_n)} \right)$$

To calculate the PageRank of a publication A, which has been cited by n other publications (T1, T2, ..., Tn), each with Ci citations, a formula is utilized. This formula involves the damping factor d, which ranges between 0 and 1 and represents the proportion of random walks along citations. The PageRank is a probability distribution across documents, with the total of all PageRank estimates for all documents equaling 1. The formula is computed iteratively and is similar to the primary eigenvector of the normalized citation matrix of the publications. The initial value for d in PageRank was 0.85, a value used in comparable bibliographic studies (Page et al., 1999). This number was determined by the observation that web surfers follow around six links before getting bored or discouraged and starting a new search. In our research, we used this value to compute the PageRank of papers. We present the top ten PageRank papers in Table 5, which range from 0.000575 to 0.007566. Alegre and Berbegal-Mirabent (2016) received the highest PageRank of 0.007566, followed by Weerawardena et al. (2021) with a PageRank of 0.007458, and Scuotto et al. (2022) with a PageRank of 0.007194. Out of the total of 329 articles, 278 articles were connected based on data calculated by Gephi.

Table 5 The Top ten articles based on the PageRank measure (Global citation scores from Google scholar, Local citation score from Bibliometrix)

Label	PageRank	Global Citation Score	Local Citation Score
Alegre and Berbegal-Mirabent (2016)	0.007566	119	3
Weerawardena et al. (2021)	0.007458	74	5
Scuotto et al. (2022)	0.007194	20	7
Reficco et al. (2021)	0.007189	33	5
Dalborg and von Friedrichs (2021)	0.007140	3	2
Hahn et al. (2018)	0.007135	105	7
Siebold (2021)	0.007090	32	6
Alkire et al. (2020)	0.007069	65	5
Olofsson et al. (2018)	0.007061	67	7
Canestrino et al. (2019)	0.007052	23	5

10. Co-word analysis

Within the realm of literary analysis, investigating author and indexer keywords can offer valuable insights into a particular field's evolution. In this current investigation (Sadabadi et

al., 2022), we analyzed 960 author keywords and 559 indexed keywords (each with at least 5 occurrences). The findings are displayed in Table #, which highlights the most commonly occurring author and indexed keywords, along with their total link strength. To identify the co-occurrences of these keywords, we employed VOSviewer software and visualized the results in a heat-map style density visualization figure. Our results reveal that the themes of sustainability and social entrepreneurship have emerged as prominent concepts in recent literature. These ideas are associated with social innovation and various revenue models. Furthermore, authors in this field exhibit a heightened focus on social innovation's management and performance. These findings present valuable insights into the current state of literature in the fields of social innovation and revenue models, and can aid future research endeavors. Figures 4 and 5 depict the network analysis of authors' and indexers' keywords, and the nodes' color corresponds to the average year of their most frequent use. Yellow nodes indicate recently repeated concepts, which may suggest that studies in this field are trending towards these particular ideas. In figures 4 and 5, we present the clusters and their respective titles based on VOSviewer's clustering system.

Table 6 top 10 Author and Indexed keywords based on the co-word analysis (PageRank and frequencies from Bibliometrix)

Author keywords	Freq.	PageRank	Index keywords	Freq.	PageRank
Social innovation	89	0.081066624	Entrepreneurship	62	0.088436760
Social business model	45	0.008502181	Innovation	55	0.087369902
Business model canvas	38	0.009566493	Performance	31	0.050611601
Hybridity	36	0.008404937	Business model	28	0.043114048
Dynamic capabilities	29	0.006126091	Social entrepreneurship	26	0.035895670
Social entrepreneurship	29	0.149758686	Value creation	24	0.033123535
Social enterprise	24	0.056467472	Management	23	0.030523482
Business models	17	0.039471336	Enterprise	21	0.029852208
Innovation	15	0.015134708	Impact	20	0.029626420
Social economy	13	0.012863239	Business model canvas	20	0.028943843

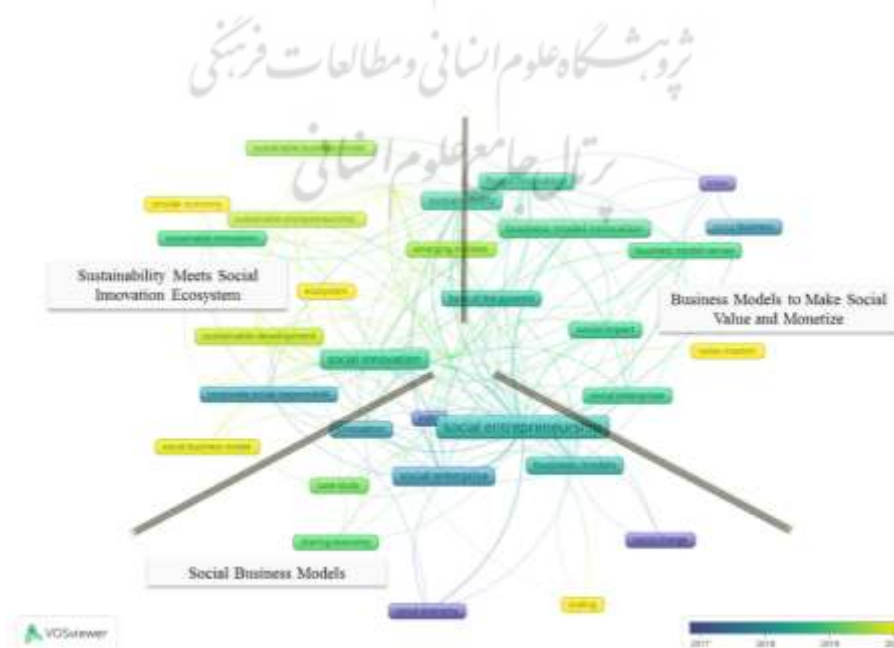


Figure 4 Author keywords' co-occurrence network analysis.

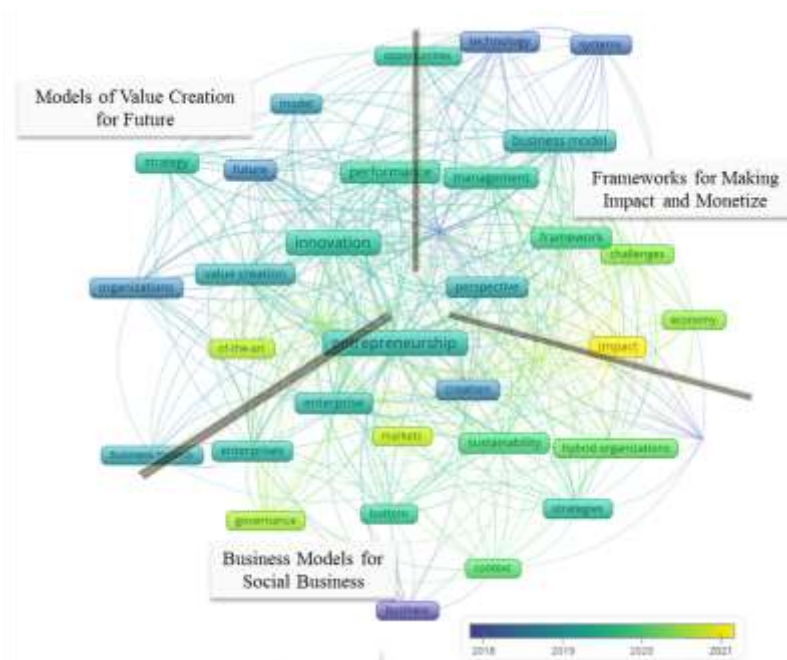


Figure 5 Indexers' keyword co-occurrence network analysis.

11. Network analysis

12. Analysis of Co-authorship among writers, countries and organizations

Collaboration among scientists is a crucial aspect of knowledge exchange and achieving shared goals. Co-authorship patterns between researchers from various countries and organizations can significantly impact the literature of a specific research field. To investigate this, we conducted a co-authorship analysis using VOSviewer to examine 329 articles from the Web of Science database. We set a minimum citation count of 10 to identify highly cited authors and uncover possible connections among fragmented literature on social innovation revenue models (Fonseca et al., 2016; Kabo, 2022; Khanra, Dhir, Parida, et al., 2021).

Our analysis resulted in a network of three clusters, which revealed influential authors in the field of social innovation revenue models. The first cluster (red) was dominated by Dimitris Mourtzis, who had the most links with 20, followed by Katerina Vlachou with 9 links. In the blue cluster, Vasileios L. Zogopoulos had the most links with 7, followed by Siganakis and Kaya with 5 links. The third and final cluster (red) was characterized by Yemane, Silipo, and Belkadi, each with 10 links. Overall, our study provides valuable insights into collaborative networks and influential authors in the field of social innovation revenue models. Figure 6 depicts our findings, which are based on rigorous analysis of the Web of Science database using VOSviewer.

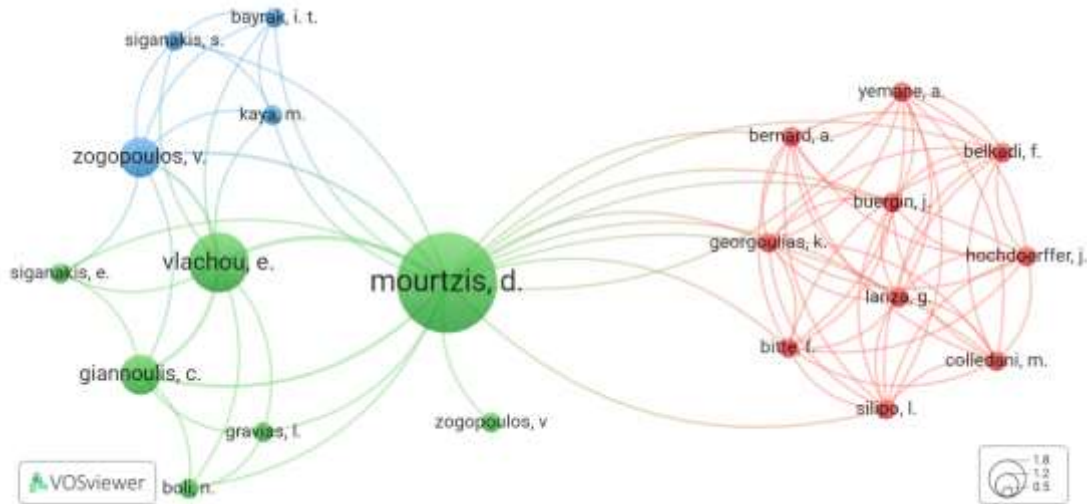


Figure 6 Author network from Co-authorship analysis of authors (minimum of documents of an author=1 minimum number of citations of an author=10)

Within the analyzed network, Harvard University emerged as the most influential organization with 14 links, while the United States exhibited the most co-authorship links among countries, with a total of 26 links.

13. Co-citation analysis

When two or more articles cite the same third article, they are considered co-cited and are likely to share similar themes and belong to a similar area of research (Chu et al., 2022; Mishra et al., 2022). To analyze the co-citation patterns in our dataset of 329 articles from the Web of Science database, we processed the data using Bibexcel and generated a network of co-cited articles using Gephi. The resulting network consisted of 278 nodes (articles) and 12,478 edges (connections between co-cited articles).

To measure the similarities of subjects across co-cited articles, we utilized the density of links within and between clusters of articles. Clusters are formed by grouping nodes (articles) in the network that have strong connections with each other. Typological analysis can be performed on these clusters to identify common themes and areas of research (Blondel et al., 2008). To create these clusters, we used Gephi and the modularity index, which employs the Louvain algorithm to calculate similarities and group articles in a weighted network. The modularity index formula is used to determine the degree to which the articles in the network are grouped together based on their connections.

$$M = \frac{1}{\sigma} \sum_{ij} \left[A_{ij} - \frac{\omega_i \cdot \omega_j}{\sigma} \right] \phi(\alpha_i, \alpha_j); \text{ where } \omega_i = \sum_j \Psi_{ij}, \omega_j = \sum_i \Psi_{ij}, \text{ and } \sigma = 2 \sum_{ij} A_{ij}.$$

The weight of the connection between two nodes, i and j , in clusters α_i and α_j , respectively, is indicated by A_{ij} . The value of $\phi(\alpha_i, \alpha_j)$ is either zero or one, depending on whether the two articles belong to the same cluster or not. We utilized the modularity index in Gephi to

categorize our dataset of 329 articles on the revenue model of social innovation into four distinct clusters, each representing a unique theme in the literature. In the following sections, we will discuss each theme and examine the chronological progression of developments in academic publications within each cluster. Additionally, Tables 7 to 10 provide lists of the top 10 papers with the highest prestige in each cluster.

Table 7 top 10 most prestigious articles of Cluster 1

Article	PageRank	Publication Year
Zhu and Cunningham (2022)	0.006618	2022
Rosca and Bendul (2019)	0.006195	2019
Rosca et al. (2017)	0.005735	2017
Sharmelly and Ray (2021)	0.005643	2021
Joncourt et al. (2019)	0.005632	2019
Hossain (2021)	0.005199	2021
Howell et al. (2018)	0.005135	2018
Ahuja et al. (2014)	0.004891	2014
Levanen et al. (2022)	0.00488	2022
Norese et al. (2021)	0.004551	2021

Table 8 top 10 most prestigious articles of Cluster 2

Article	PageRank	Publication Year
Costanza (2023)	0.006342	2023
Vrontis et al. (2021)	0.005801	2021
Tabares et al. (2021)	0.005593	2021
Rahdari et al. (2016)	0.005548	2016
Carayannis et al. (2021)	0.005294	2021
Blasi and Sedita (2022)	0.005153	2022
Daub et al. (2020)	0.004621	2020
Cantele et al. (2022)	0.004255	2022
Henry et al. (2023)	0.004202	2023
Rok and Kulik (2021)	0.004037	2021

Table 9 top 10 most prestigious articles of Cluster 3

Article	PageRank	Publication Year
Alegre and Berbegal-Mirabent (2016)	0.007566	2016
Reficco et al. (2021)	0.007189	2021
Dalborg and von Friedrichs (2021)	0.007140	2021
Hahn et al. (2018)	0.007135	2018
Olofsson et al. (2018)	0.007061	2018
Margiono et al. (2018)	0.006835	2018
Davies and Chambers (2018)	0.006772	2018
Doherty and Kittipanya-Ngam (2021)	0.006661	2021
Otola et al. (2021)	0.006620	2021
Layrisse et al. (2021)	0.006553	2021

Table 10 top 10 most prestigious articles of Cluster 4

Article	PageRank	Publication Year
Bandi et al. (2022)	0.006049	2022
Hahn and Ince (2016)	0.005280	2016
Rivna and Gress (2022)	0.003372	2022
Siebold (2021)	0.007090	2021
Wilson and Post (2013)	0.005388	2013

Alkire et al. (2020)	0.007069	2020
Canestrino et al. (2019)	0.007052	2019
Cucari et al. (2020)	0.006873	2020
Dohrmann et al. (2015)	0.005372	2015
Escribano and Gonzalez (2022)	0.005285	2022

14. *Dynamic co-citation analysis*

The present study introduces a co-citation network in which journal articles are represented as nodes and their co-occurrence in other publications is indicated by edges. A dynamic co-citation approach is proposed to illustrate the development of clusters and the impact on the co-citation network literature. By utilizing this approach, four significant clusters were identified, and their emergence and distinct evolutionary trajectories are demonstrated in Table 9 and Figure 11. Furthermore, the strength of co-citation relations among clusters and the significance of articles are illustrated in Figure 10, reflecting the density of connections and node size based on their PageRank, respectively. Our results indicate that a dynamic co-citation network is an effective tool for gaining valuable insights into the evolution of clusters and the shaping of the literature over time (Chen et al., 2010).

Table 11 the development of four clusters based on analysis of dynamic co-citation

Publication year	Cluster 1	Cluster 2	Cluster 3	Cluster 4
2004	1	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	1	0	1
2012	0	0	0	0
2013	1	0	0	1
2014	0	0	1	3
2015	0	2	2	1
2016	0	2	1	4
2017	0	2	3	2
2018	0	5	2	1
2019	5	6	6	9
2020	3	8	6	8
2021	3	10	15	8
2022	1	3	14	10
2023	5	8	12	17
Total	30	59	87	101

Table 11 presents the number of articles published about social innovation revenue models in each year for four clusters. Cluster 4 has the highest number of articles published, with a total of 101 articles, followed by Cluster 3 with 87 articles, Cluster 2 with 59 articles, and Cluster 1 with the lowest number of articles at 30. There has been an increasing trend in the number of publications over time for all clusters. In particular, Cluster 3 and Cluster 4 have seen a significant increase in the number of publications in recent years.

15. Content analysis of thematic areas

16. *Thematic areas of research*

17. **Cluster 1: Business Models for Social Innovation: Frugal and Sustainable Approaches**

The focus on revenue models of social innovation within this cluster is particularly noteworthy as it highlights the growing importance of sustainability and social impact in the business world. The articles in this cluster highlight the need for businesses to not only generate revenue but also consider the impact they have on the environment and society. Frugal innovation is an approach that has gained traction in recent years as it enables businesses to develop products and services that are accessible to low-income consumers, which is an essential consideration in addressing social inequality. This approach requires businesses to adopt new business models and revenue models that prioritize sustainability and social impact alongside financial profitability. On the other hand, sustainable innovation involves designing products and services that minimize environmental impact and contribute to broader social goals, such as reducing poverty and inequality, creating jobs, and improving health outcomes. Businesses that adopt sustainable innovation practices can not only contribute to societal and environmental goals but also gain a competitive advantage in an increasingly conscious marketplace. Therefore, exploring revenue models that align with frugal and sustainable approaches is vital for businesses to achieve their social and environmental goals while also ensuring long-term financial sustainability. (Norese et al., 2021; Rosca & Bendul, 2019).

The importance of partnerships and collaborations in social innovation is one of the most prominent themes in this cluster. The authors suggest that partnerships between companies, NGOs, and governments can help to overcome the challenges associated with serving low-income consumers and achieving sustainability goals. Another theme is the role of information technology in social innovation (Rosca & Bendul, 2019). The authors argue that frugal IT capabilities can enable organizations to leverage IT resources in innovative and cost-effective ways to enable frugal innovation (Ahuja et al., 2014).

The articles also highlight the potential of social innovation to create value for both businesses and society as a whole. Frugal and sustainable approaches to innovation can enable organizations to reach new markets, create new revenue streams, and achieve social and environmental goals (Howell et al., 2018; Joncourt et al., 2019; Norese et al., 2021; Rosca et al., 2017). In addition, the articles suggest that social innovation can help to address some of the world's most pressing challenges, such as poverty, climate change, and health inequality (Hossain, 2021; Levanen et al., 2022; Sharmelly & Ray, 2021; Zhu & Cunningham, 2022).

Future research subjects based on these themes could include:

1. The role of partnerships and collaborations in enabling social innovation
2. The impact of frugal IT capabilities on social innovation
3. The effectiveness of different business models for social innovation, including traditional, social, hybrid, and ecosystem models

4. The relationship between social innovation and broader social and environmental goals, such as the Sustainable Development Goals
5. The potential of social innovation to create shared value for both businesses and society as a whole.

18. Cluster 2: Exploring Revenue Models of Social Innovation: Insights from B Corps and Circular Start-ups

Cluster two of the research on revenue models for social innovation focuses on exploring the revenue models of social entrepreneurship by analyzing the organizational structures and factors that contribute to high sustainability performance. The studies delve into the motivations and identities of grassroots circular entrepreneurs who aim to create a positive impact on society and the environment.

The research in this cluster examines various forms of social entrepreneurship, such as B Corps, social enterprises, and positive impact entrepreneurship, to identify the factors that lead to sustainable revenue models for these organizations. By analyzing the revenue models of social innovation, these studies aim to understand the impact of social innovation on traditional business models.

Furthermore, the research in this cluster highlights the role of universities in promoting innovative sustainability projects. The studies suggest that universities can play a critical role in fostering a culture of social entrepreneurship and innovation, providing resources and networks for social entrepreneurs, and facilitating knowledge-sharing between social entrepreneurs and academics. (Daub et al., 2020; Rok & Kulik, 2021; Vrontis et al., 2021).

Several studies in this collection focus on B Corps, a relatively new organizational form that aims to balance social and environmental objectives with financial goals. Blasi and Sedita (2022) map the intellectual structure of B Corp research and find that the field is highly interdisciplinary, with a strong focus on sustainability and corporate social responsibility. Cantele et al. (2022) use a configurational approach to identify the organizational factors that lead to high sustainability performance among B Corps. Tabares et al. (2021) analyze the impact of B Corps on sustainable development from a structuration theory perspective, finding that B Corps' impact is contingent on the structure of the wider institutional environment.

Other studies in this cluster examine circular start-ups, which aim to create sustainable business models that minimize waste and maximize resource efficiency. Costanza (2023) uses a dynamic grounded analysis to explore the revenue model of a clothing recycling start-up. Henry et al. (2023) investigate the motivations and identities of grassroots circular entrepreneurs and find that they are driven by a desire to create positive social and environmental impact.

The collection also includes studies that examine the broader social innovation ecosystem. Carayannis et al. (2021) propose a quadruple/quintuple helix-based social innovation ecosystem model that integrates stakeholders from academia, industry, government, civil society, and the environment. Rahdari et al. (2016) investigate the role of social enterprises in achieving sustainability through Schumpeterian social entrepreneurship.

Based on these articles, future research could explore:

1. The impact of B Corps on stakeholders other than consumers, such as employees and suppliers.
2. The role of government policies in supporting the growth of circular start-ups and other forms of social entrepreneurship.
3. The factors that enable social innovation ecosystems to effectively mobilize resources and drive change.
4. The role of technology in enabling and accelerating social innovation.
5. The potential for hybrid business models that combine the principles of social innovation with traditional profit-driven models.

19. Cluster 3: Exploring Revenue Models and Business Model Innovation in Social Enterprises and Sustainable Entrepreneurship

This cluster has a wealth of revenue model and business model innovation research on social enterprises and sustainable entrepreneurship. These investigations reveal their intricacy and multifacetedness. These articles focus on social innovation success elements, including revenue models and social enterprise success factors. Scholars also examine how business counselors might help social entrepreneurs establish revenue models and commercial strategies. This research illuminates the role of external assistance in social innovation, which can help practitioners and governments improve social entrepreneur support. This cluster emphasizes hybridity and business model theory in sustainable entrepreneurship. Hybridity and the integration of different goals in sustainable entrepreneurship have been studied in social businesses' revenue models and commercial strategies. Finally, this cluster contains studies on social enterprise business model innovation and its effects. Studies also examine business model innovation's problems and potential, including experimentation, adaptation, and learning. This cluster also studies examine how social entrepreneurs that have successfully innovated their business models might establish and refine revenue models to enable sustainable social impact. (Dalborg & von Friedrichs, 2021; Layrisse et al., 2021).

One theme that emerges across many of these articles is the importance of hybridity in sustainable entrepreneurship. Davies and Chambers (2018) argue that hybridity is essential to creating sustainable business models that combine social and environmental impact with profitability. Similarly, Hahn et al. (2018) highlight the commercial logic of hybrid businesses, which integrate social and environmental impact into their business models. Margiono et al. (2018) develop a typology of social venture business model configurations that reflects the hybrid nature of social enterprises.

Another theme that emerges is the role of business model innovation in transforming non-profit organizations into social enterprises. Reficco et al. (2021) explore the journey of transformation from a donation-based non-profit to a social enterprise through business-model innovation. Similarly, Olofsson et al. (2018) investigate the journey and impact of business model innovation in a social enterprise in the Scandinavian electricity retail market.

The articles also highlight the importance of value creation and inclusive value chain development in social enterprises. Doherty and Kittipanya-Ngam (2021) examine the role of social enterprise hybrid business models in inclusive value chain development, while Otola et al. (2021) explore the value creation in business models for social enterprises.

Future research subjects for this cluster may be:

1. The role of digitalization and technology in the revenue models and business model innovation of social enterprises and sustainable entrepreneurship.
2. The impact of cultural and contextual factors on the revenue models and business model innovation of social enterprises.
3. The role of networks and partnerships in the revenue models and business model innovation of social enterprises and sustainable entrepreneurship.
4. The impact of government policies and regulations on the revenue models and business model innovation of social enterprises and sustainable entrepreneurship.
5. The role of social innovation and sustainability in the development of revenue models and business models for social enterprises.

20. Cluster 4: Exploring Business Models for Social Impact and Well-being

Cluster four is a significant contribution to the discourse on revenue models for social innovation, which is an increasingly important area of research due to the growing emphasis on sustainability and social impact in business. The articles within this cluster highlight the diverse range of topics related to revenue models for social innovation, including social entrepreneurship, social value creation, and business models for social purpose organizations. The articles within this cluster provide valuable insights into the various revenue models that organizations can adopt to promote social impact and well-being while achieving business sustainability. The authors of these articles recognize that social innovation requires a different approach to generating revenue than traditional businesses. The articles discuss innovative revenue models, such as pay-what-you-can pricing models and profit-sharing schemes with employees that align with the organization's social mission and values. Moreover, the articles explore the interplay between revenue models and business model innovation in social enterprises and how revenue models shape the innovation process. They also discuss the challenges that social innovations face in generating revenue to fund their innovative ideas while balancing financial sustainability with social impact.

Alkire et al. (2020) propose an interdisciplinary framework that combines transformative service research, service design, and social entrepreneurship to advance well-being and social impact. Bandi et al. (2022) examine the paradoxical challenges of mini-grid business models in rural India and their impact on both business viability and customer affordability. Canestrino et al. (2019) present a case study of *La Paranza*, a social business model that creates social value through entrepreneurship. Cucari et al. (2020) explore the social entrepreneurship business model through an exploratory case study in the Italian cultural heritage sector. Dohrmann et al. (2015) provide a business model approach for monetizing social value creation.

Escribano and Gonzalez (2022) Propose a model for decision-making in the creation of work integration social enterprises by social action organizations. Hahn and Ince (2016) present a framework to understand the constituents and characteristics of hybrid businesses. Rivna and Gress (2022) examine social entrepreneurship as a new business model, with a focus on refugee integration. Siebold (2021) discusses reference points for business model innovation in social purpose organizations from a stakeholder perspective. Lastly, Wilson and Post (2013) explore social business as a market-based approach to social value creation.

Future research subjects that could be explored based on these articles include:

1. The role of social entrepreneurship in promoting sustainability and social impact in developing economies.
2. The impact of innovative revenue models on social value creation and community development.
3. The challenges and opportunities of scaling social innovation initiatives in different sectors and contexts.
4. The relationship between social entrepreneurship and corporate social responsibility.
5. The implications of new technologies and digital platforms on revenue models for social purpose organizations

21. Charting a Course for Future Research: Navigating Recommendations and Unexplored Terrain

The previous sections have examined the significant themes and their development, revealing areas where research is lacking. As we will demonstrate in the following discourse, these suggested areas of study are also suggested as a means of addressing the identified research gaps.

22. Underexplored Areas of Inquiry:

Based on the content analysis of thematic areas and highly prestigious articles of each cluster, some possible categories for future research and underexplored areas of inquiry are presented:

Exploring Revenue Models for Frugal and Sustainable Approaches: In Cluster 1, the focus is on social innovation business models that operate with limited resources and prioritize sustainability. These types of social innovations require a different approach to generating revenue than traditional businesses. Future research could explore how frugal and sustainable social innovations generate revenue to sustain themselves while still achieving their social missions. (Hossain, 2021; Levanen et al., 2022; Rosca et al., 2017). For instance, research could investigate revenue generation methods that rely on open-source technologies, community partnerships, or low-cost distribution channels. Such methods could provide insights into how social innovations that adopt frugal and sustainable approaches can generate revenue to fund their operations. Additionally, case studies of successful frugal and sustainable social enterprises and their revenue models could offer valuable insights into how these organizations sustain themselves while prioritizing social impact and sustainability. (Norese et al., 2021; Rosca et al., 2017).

Innovative Revenue Models for Social Impact and Well-being: Cluster 4 in the paper's analysis focuses on business models for social impact and well-being, which are organizations that prioritize their social mission and value creation for their stakeholders over just financial sustainability. These types of organizations seek to create positive social outcomes and address social challenges through their operations. However, there is limited research on innovative revenue models for such organizations.

Therefore, future research could explore revenue models that align with the organization's social mission and values, rather than solely focusing on maximizing profits. For example, research could investigate pay-what-you-can pricing models, where customers pay what they can afford to access the organization's products or services. Another potential revenue model could be profit-sharing schemes with employees, where a portion of the profits is shared with employees based on their contribution to achieving the organization's social mission.

Furthermore, such research could examine how social innovations balance financial sustainability with social impact and how they prioritize generating revenue to support their social mission. This type of research could be particularly useful for social enterprises and sustainable entrepreneurship, where financial sustainability is critical to the organization's success, but so is their social impact. The research could explore the different revenue streams available to social enterprises and how these organizations prioritize their revenue generation to align with their social mission (Alkire et al., 2020; Bandi et al., 2022; Hahn & Ince, 2016).

The Interplay between Revenue Models and Business Model Innovation: Social enterprises innovate to improve society. Without a business model that supports their social objective, innovation alone cannot sustain these organizations. Social companies need revenue strategies and business model innovation to succeed financially and socially. Revenue models are important in social innovation, but little is known about how they affect business model innovation.

So, future research might examine social enterprise income models and business model innovation. Social innovations and business model innovation can create cash. This could involve studying how social companies reconcile financial sustainability with social impact goals and prioritize revenue to support their mission. Innovative revenue strategies that support the organization's social goal and ideals may be a focus. This could include exploring pay-what-you-can pricing or employee profit-sharing.

These new income models may help researchers understand how social firms can be financially sustainable while delivering social impact. Social firms that have effectively innovated their business models while generating sustainable revenue may also shed light on how they balance innovation and financial sustainability. Researchers could learn revenue model and business model innovation best practices from these successful social companies. (Cantele et al., 2022; Vrontis et al., 2021).

Table 12 Possible Future Research Areas for Revenue Models in Social Innovation

Main Theme	Future Research Area	Possible Themes for Future Research
Frugal and Sustainable Approaches	Revenue generation in frugal and sustainable social innovations	Open-source technologies and revenue generation, low-cost distribution channels, case studies of successful frugal and sustainable social enterprises
Social Impact and Well-being	Innovative revenue models for social impact and well-being	Pay-what-you-can pricing models, profit-sharing schemes with employees, balancing financial sustainability with social impact
Revenue Models and Business Model Innovation	Interplay between revenue models and business model innovation	Revenue generation to fund innovative ideas, how business model innovation leads to new revenue streams, case studies of social enterprises that have innovated their business models sustainably

23. Unveiling the Pathway to Progress: Empowering Future Studies with Optimal Research Methods

Qualitative research methods are particularly well-suited for exploring complex phenomena that cannot be easily quantified or measured. Most of the studies in our 4 clusters rely on a variety of qualitative research methods, such as case studies, interviews, and content analysis (Acciarini et al., 2022; Alharbi et al., 2022; Cantele et al., 2022; da Costa et al., 2022; Stirzaker et al., 2021; Tabares, 2021; Vinodan & Meera, 2021).

Qualitative research methodologies are especially beneficial when studying revenue models for social innovation because they allow researchers to capture the subtleties and intricacies of these models.

Social innovation revenue models are frequently hybrid models that ingeniously blend for-profit and non-profit features. These models can be difficult to evaluate and quantify using typical quantitative research methods; therefore, qualitative research methods are ideally suited for researching them.

However, income models for social innovation are frequently context-dependent and reliant on certain social, cultural, and political contexts. Our proposal is to use qualitative research methods, which allow researchers to incorporate contextual elements, as well as the perspectives and experiences of stakeholders involved in the models. Yet, there is a dearth of quantitative research that investigates the models and frameworks proposed in the study of revenue models for social innovation.

24. Discussion

The body of knowledge pertaining to social innovation revenue models is distributed across various publications and exhibits a lack of coherence and unity. Furthermore, there is an inadequacy of comprehensive research studies that demonstrate the present arrangement of the literature. In response to this challenge, the present review has made significant contributions to the evaluation of social innovation revenue models literature, as follows:

25. Acknowledging the primary contributors

The primary objective of Research Question 1 in this study was to identify the major factors that contribute to the development of social innovation revenue models research.

The results of this study provide significant insights into the current state of literature on social innovation revenue models. Tables 2 and 3 demonstrate that Dimitris Mourtzis, Mokter Hossain, and Marek Ćwiklicki are the authors with the highest number of publications in this field, while Politecnico di Milano (Italy), Tecnológico De Monterrey (Mexico), and Delft University of Technology (The Netherlands) are the institutions with the most number of publications. Moreover, the US, England, and Italy are the countries with the most published articles in the field, with notable publications in reputable sources such as Sustainability, Journal of Cleaner Production, and Journal of Business Research.

Citation analysis in Table 4 identifies the top writers in social innovation revenue models as Dimitris Mourtzis, Frank Boons, and Florian Luedeke-freund, with Erasmus University Rotterdam (The Netherlands), INSEAD (International), and Leuphana University of Lüneburg (Germany) being the top universities. These results provide valuable insights into the key players and influencers in this field across various regions and countries.

Figure 3 shows that the collaborative network of authors is fragmented across different research fields, indicating the need for more comprehensive studies to bridge the gaps and establish a more cohesive body of knowledge in this area.

26. *The most Prestigious articles*

Table 6 presents the top ten most prestigious articles, identified by PageRank, that were published in the Web of Science database until March 13th, 2023, from an initial pool of 278 articles. The analysis indicates that six of the top ten articles are centered around business model innovation for social purpose organizations, highlighting its dominant position in the literature (Hahn et al., 2018; Olofsson et al., 2018; Reficco et al., 2021; Scuotto et al., 2022; Siebold, 2021; Weerawardena et al., 2021). Social entrepreneurship as a means of creating social value emerged as the second most prevalent theme, with four articles featuring this topic (Alegre & Berbegal-Mirabent, 2016; Alkire et al., 2020; Canestrino et al., 2019; Dalborg & von Friedrichs, 2021). Moreover, two of the highly prestigious articles highlighted the factors contributing to the success of social innovation business models (Alegre & Berbegal-Mirabent, 2016; Reficco et al., 2021).

27. *Tracing the Evolution of Thematic Areas*

Among the thematic areas, "Business Models for Social Innovation: Frugal and Sustainable Approaches," has had a slower growth rate compared to the other themes, and it seems to have reached a saturation point in recent years, with only a few publications in the last two years. On the other hand, "Exploring Revenue Models of Social Innovation: Insights from B Corps and Circular Start-ups," has experienced a steady growth rate and seems to be expanding even more, with a total of 59 publications over the years and a notable increase in the last two years. On the other hand, "Exploring Revenue Models and Business Model Innovation in Social Enterprises and Sustainable Entrepreneurship," has also been increasing steadily, but it has shown a slower growth rate in recent years, suggesting that it might have reached a saturation point. Finally, "Exploring Business Models for Social Impact and Well-being," has had a high growth rate in recent years, and it seems to be expanding even more, with 17 publications in the current year alone.

In summary, while "Business Models for Social Innovation: Frugal and Sustainable Approaches," seems to have reached its saturation point, "Exploring Revenue Models of Social Innovation: Insights from B Corps and Circular Start-ups" and "Exploring Business Models for Social Impact and Well-being" are still expanding, and "Exploring Revenue Models and Business Model Innovation in Social Enterprises and Sustainable Entrepreneurship" might have reached a saturation point in recent years.

28. Conclusion

The present paper provides a rigorous and systematic analysis of the literature on revenue models for social innovation, making it a valuable resource for researchers, practitioners, and policymakers alike. By utilizing a bibliometric methodology, the study identifies key contributors, articles, and themes in the field of revenue models for social innovation. This methodology ensures that the analysis is based on robust data and allows for a comprehensive and objective evaluation of the literature.

The identification of four critical thematic areas highlights the diversity and complexity of revenue models for social innovation. These themes are essential for researchers and practitioners to gain a nuanced understanding of revenue models for social innovation and to develop strategies to address the challenges faced by social innovators. Additionally, the study highlights research gaps within these themes and suggests potential avenues for future research. By doing so, the paper not only provides insights into the current state of the literature but also offers a roadmap for future research.

This research identified several research gaps within the four thematic areas of revenue models for social innovation, which could serve as potential avenues for future research. The gaps include the need to explore the scalability and replicability of frugal and sustainable business models, the role of policy frameworks and institutional support in promoting circular start-ups, the potential of hybrid revenue models in social enterprises and sustainable entrepreneurship, and the impact of social innovation on community well-being. To address these gaps, future studies could employ diverse research methods, such as case studies, surveys, and experiments, and draw on interdisciplinary theories from fields such as business, economics, sociology, and psychology. By filling these gaps, future research could enhance our understanding of revenue models for social innovation and contribute to the development of effective strategies for creating social impact.

It is worth noting that the study's sample was limited to publications in the Web of Science database, which may have impacted the study's results. Future research could incorporate articles from other significant databases, such as Scopus and Google Scholar, to broaden the study's scope and enrich the findings with valuable insights that could inform developments in social innovation business models research.

Overall, this study provides a roadmap for future researchers interested in studying social innovation impact assessment. The findings can inform future studies aimed at expanding the knowledge base in this area and contribute to advancing social innovation research.

29. Theoretical implications

This paper offers a complete literature review on revenue models for social innovation.

The study provides a basis for future research on this topic by identifying the leading contributors, most significant works, and essential themes. Particularly noteworthy is the study's emphasis on identifying research gaps and offering prospective pathways for future research, as it provides a road map for scholars interested in growing the body of knowledge in this field.

The identification of four important subject areas and research gaps within them has theoretical consequences as well. These gaps provide opportunity for scholars to offer fresh insights and evaluate established theories. In addition, the recommendation to utilize interdisciplinary theories from domains such as business, economics, sociology, and psychology in future research may result in a more comprehensive understanding of revenue models for social innovation.

30. Practical implications

The given analysis has major implications for scholars, practitioners, and policymakers in the field of social innovation. The study's thorough literature assessment on revenue models for social innovation provides a framework for comprehending the field's core topics and research gaps. By identifying the significant contributors to the field and the most influential papers, the analysis provides academics and practitioners with a valuable reference for examining the current literature in this area.

In addition, the proposed research topics and methodologies for future studies give useful insights for policymakers and practitioners wanting to build successful strategies for generating social impact. The identification of research gaps within theme areas of revenue models for social innovation identifies possible future research pathways that could contribute to the creation of effective policies and practices. For example, the need to investigate the scalability and replication of frugal and sustainable business models could assist policymakers and practitioners in identifying successful tactics for supporting sustainable social innovation efforts.

In summary, the practical implications of this study are substantial for researchers, practitioners, and policymakers looking to establish effective techniques for producing social impact. The study provides a roadmap for advancing social innovation research and enhancing our understanding of revenue models for social innovation by identifying research gaps and proposing research themes and methods for future studies.

31. Research limitations

Despite the comprehensive analysis of the literature on revenue models for social innovation conducted in this study, certain limitations still remain. For instance, the study mainly focused on English-language literature, which may have excluded valuable insights from other languages. Additionally, the study's scope was limited to articles published in academic journals and may have overlooked relevant contributions from other sources.

To address these limitations, future research could explore revenue models for social innovation across a different range of scientific databases (for example, Google scholar and Scopus), languages and sources, such as gray literature, conference proceedings, and industry reports. Furthermore, future research could adopt a more interdisciplinary approach by incorporating insights from fields such as sociology, psychology, and economics to provide a more comprehensive understanding of the complex dynamics of revenue models in social innovation.

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