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"GAMIFICATION IN SOCIAL COMMERCE: A DECADE-LONG BIBLIOMETRIC ANALYSIS OF TRENDS, CONTRIBUTIONS, EMERGING INSIGHTS AND FUTURE AGENDA (2014–2025)"

[*1] Diksha Gandhi, [2]B S Bhatia,[3]Shivani
[1]Research Scholar, RIMT UNIVERSITY, Mandigobindgarh, Punjab, India,
[2] Prof (Dr.) BS Bhatia, Pro Vice Chancellor, RIMT University, Mandigobindgarh, Punjab,
[3]Chandigarh Group of Colleges, Jhanjeri, Mohali, Punjab, India-140307 , Chandigarh School of Business, Department of Management,

ABSTRACT
Acknowledging the increase in popularity of social commerce, especially in developing countries, and the great potential and rapid evolution of gamification and social media marketing in the modern digital age. Examining how gamification shapes social commerce dynamics is crucial, especially in the digital era, since it significantly improves user engagement and buying behavior. Scopus database was used to retrieve all existing and highly cited work; the search strategy incorporated keywords such as "Social Commerce", "Social Media Platforms", OR "Social Media Applications" in combination with "Gamification" OR gamified. This yielded 1,929 results, narrowed down to 886 after filtering for the 2014–2025 period. The study's findings show that research on role gamification in social commerce has grown significantly. The results highlight author partnerships both domestically and abroad and show the percentage of research on gamification in social commerce has increased dramatically over the last ten years. To help researchers, marketers, and platform developers better understand how this field has developed and what essential elements are needed to successfully integrate gamification strategies in social commerce platforms in the experiential and digital era, the study carried out a comprehensive bibliometric analysis of the role of gamification in social commerce. Developers of social networking platforms and marketers should take an active approach to gamifying ads to improve consumer perceptions of them. The development of optimal algorithms is crucial for social networking platform developers to enhance the platform's interactivity by utilizing a database to produce pertinent advertising recommendations for users.

Keywords
Gamification, Social Commerce, Social Media, Scopus, Bibliometric Analysis.

1. INTRODUCTION
The rise of social commerce has led to innovative approaches to consumer engagement, with gamification serving as a bridge between passive browsing and active participation. Burke (2002) posits that gamification enhances user motivation, ultimately influencing purchasing decisions. Costa, Dekker, and Jongen (2004) further elaborate on the role of gamified strategies in shaping consumer preferences, particularly in emerging markets where social commerce is rapidly expanding. Studies by Zainuddin and Perera (2020) emphasize the significance of selfdetermination theory in understanding how gamified elements such as rewards, leaderboards, and challenges drive consumer behavior. The theoretical foundation of gamification is deeply rooted in psychological theories of motivation and behavior. Deci (1975) and DeCharms (1972) provide foundational insights into intrinsic motivation, emphasizing the roles of autonomy and competence in fostering engagement. Condry (1977) explores the concept of self-initiated learning in gamified environments, suggesting that interactive elements significantly enhance user retention and satisfaction.

Gamification, a game-thinking method that employs mechanics to encourage users to perform specific actions, has gained increasing prominence in engaging customers and solving problems (Zichermann & Cunningham, 2011). The concept has been widely adopted across various sectors, including retail (Dholakia, 1999), marketing (Hofacker et al., 2016), health and fitness applications (Lister et al., 2014), and education (Zainuddin & Perera, 2020). The incorporation of game elements such as points, leaderboards, rewards, and challenges has been found to enhance user engagement, motivation, and brand loyalty (Bunchball Inc., 2010). The evolution of social commerce has significantly transformed global retailing by merging the capabilities of social media with e-commerce to create an interactive business environment. This shift is especially noticeable in emerging economies, where technological adoption has surged due to increased internet penetration and smartphone accessibility. Consumer behavior research has identified various determinants of shopping behaviors, such as convenience (Anderson Jr, 1971; Brown, 1990), motivations (Bellenger & Korgaonkar, 1980; Costa, Dekker, & Jongen, 2004), and consumer trust (Ang et al., 2001). The impact of these factors is further amplified through digital engagement strategies like gamification, which fosters active participation over passive interaction in social commerce (Burke, 2002).In marketing, gamification has proven to be a crucial tool in influencing consumer decisions and fostering engagement. Brands have successfully leveraged interactive marketing campaigns to enhance user involvement. For instance, Tipp-Ex introduced an interactive campaign that allowed users to modify story outcomes, attracting millions of viewers and strengthening brand perception (Farey-Jones, 2012). This example underscores how gamification can enhance marketing effectiveness by integrating entertainment and engagement (Daniel Farey-Jones, 2012).In academia, bibliometric analysis is a valuable tool for identifying research trends and mapping scholarly contributions. This approach facilitates an understanding of key publication trends, influential authors, and dominant research themes (Donthu et al., 2020). In the context of gamification and social commerce, existing literature explores its effects on motivation (Deci, 1975), self-determination (DeCharms, 1972), and learning behaviors (Condry, 1977). However, while gamification holds significant promise, it remains an underexplored domain in emerging markets, where socio-economic and cultural dynamics introduce unique challenges and opportunities. This study conducts a comprehensive bibliometric review of gamification in social commerce to bridge existing research gaps. Using data from the Scopus database, we analyze top-cited articles from 2014 to 2025 to assess dominant trends, key authors, and evolving research patterns. The findings will contribute to a deeper understanding of how gamification influences social commerce, user engagement, and purchasing behavior. Additionally, this research aims to provide insights into how businesses, Academician, and Societal can optimize gamification strategies to enhance consumer experiences and foster longterm brand loyalty. Using a bibliometric tool R-Studio, the paper discovers important themes and findings that will be useful for researchers, marketers, and developers to make good use of gamification in digital and experiential settings from 2014 to 2025 by resolving the following research questions:

- What are the key publication trends in gamification and social commerce, considering top journals, leading authors, and contributing countries?
- Which keywords dominate the research landscape in this field?
- What factors are explored concerning the effectiveness of gamification, and what themes underlie this relationship?
- What gaps exist in the current literature and what directions should future research pursue?
- What are the key practical implications for various Stakeholders?

2. DATA AND RESEARCH METHODOLOGY

The bibliometric analysis was conducted using data retrieved from the Scopus database, employing keywords related to "Social Commerce," "Social Media Platforms," and "Gamification." After

filtering by publication year (2014–2025), disciplines, document type, language, source type, and publication stage, 886 documents were analyzed using R Studio. The image displays a bibliometric analysis dashboard summarizing key metrics related to academic publications over a defined timespan (2014–2025). Below is the interpretation of each metric:

Table 1: Survey for Literature, Search Criteria and Article Selection

Stage	Details	Accepted	Rejected
Initial Retrieval	Retrieved from Scopus database with keywords	1,929	-
Year Filtering	Documents between 2014–2025	1,626	303
Discipline Selection	Selected relevant disciplines (e.g., Computer Science, Business, etc.)	1,508	118
Keywords Filtering	Applied additional keyword filters	1,426	82
Document Type Filtering	Articles, Conference Papers, Book Chapters	1,208	218
Language Filtering	English-only documents	998	210
Source Type Filtering	Journals and Conference Proceedings	918	80
Publication Stage Filtering	The final publication stage selected	886	32

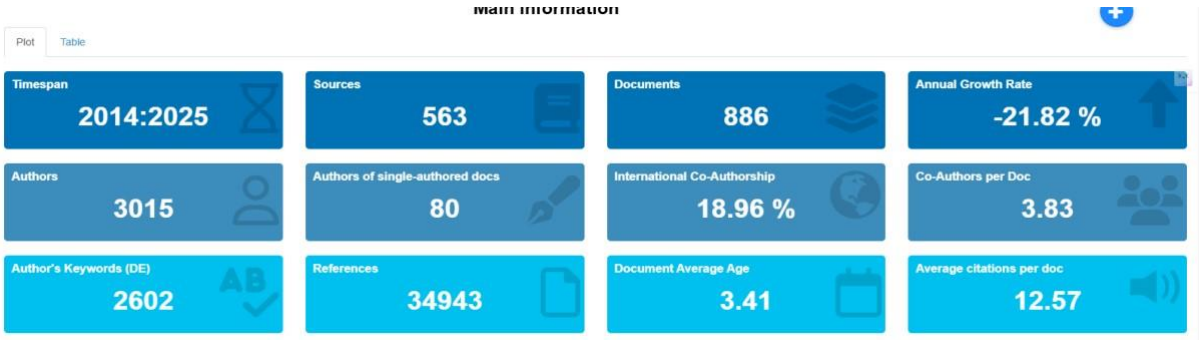

Figure 1: Contributions

The analyzed dataset spans publications from 2014 to 2025, comprising contributions from 563 distinct sources, including journals and conference proceedings. A total of 886 documents, such as articles, conference papers, and reviews, were examined. The publication rate showed an annual decline of 21.82%. Contributions came from 3,015 unique authors, with 80 singleauthored works. International collaborations accounted for 18.96% of the documents, reflecting moderate global partnerships. Each document averaged 3.83 co-authors, demonstrating a collaborative research trend. The authors used 2,602 unique keywords, showcasing diverse research themes. Collectively, the

documents referenced 34,943 sources, with an average document age of 3.41 years. Each document received approximately 12.57 citations, highlighting a moderate academic impact.

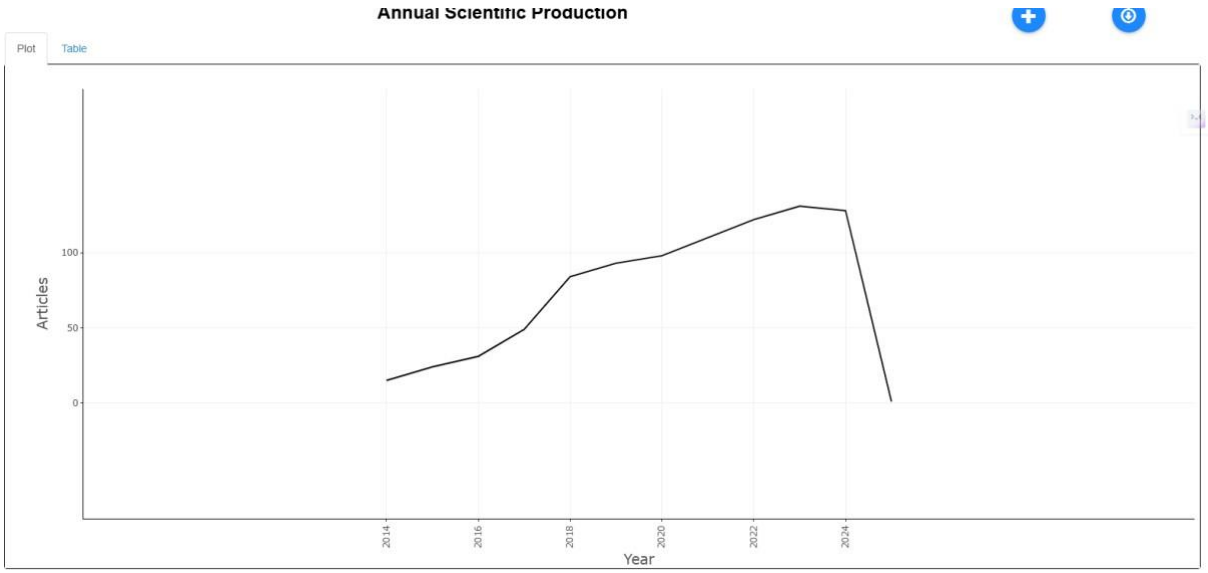

Figure 2: Annual Scientific production

The chart illustrates the annual scientific production over the years, showing the number of articles published on a specific topic. From 2014 to 2021, there is a consistent increase in publications, indicating growing interest in the subject. This trend peaks between 2021 and 2023, marking the period of highest academic activity. However, a sharp decline in 2024 is observed, which could be due to factors such as reduced interest in the topic, incomplete data collection for the year, or external disruptions like funding cuts or global events. The continued rise until 2023 suggests the topic's increasing significance, while the 2024 drop warrants further investigation to determine if it reflects a real decline in research interest or is simply a result of data collection limitations.

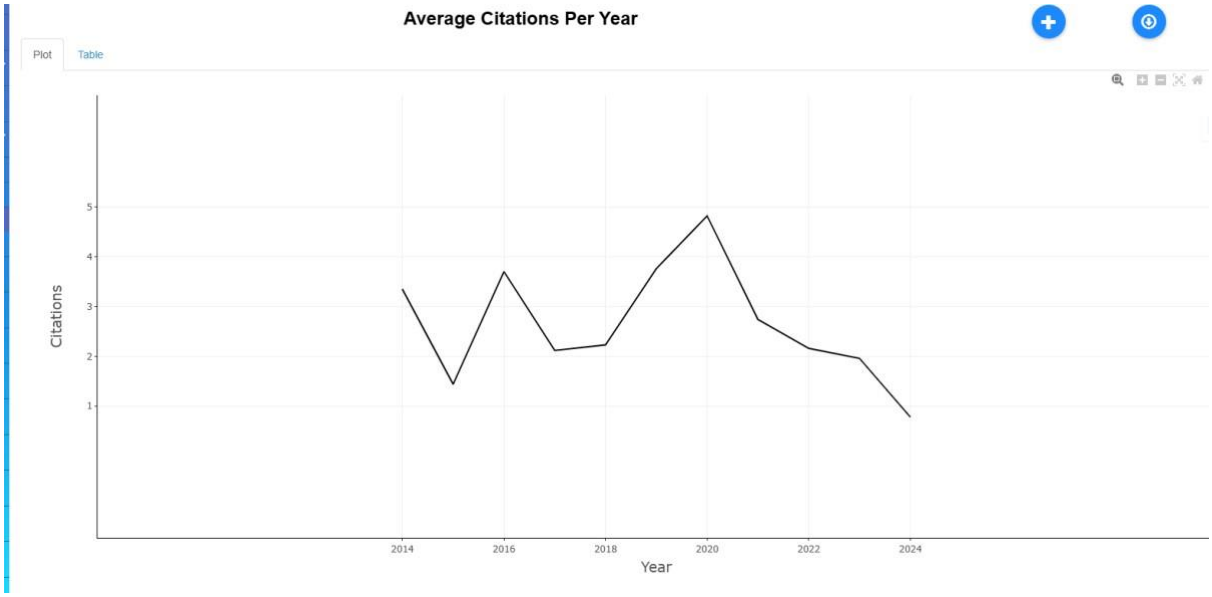

Figure 3: Average Citations Per Year

The chart illustrates the Average Citations Per Year, showing how publications have been cited annually over time. From 2014 to 2020, citation counts fluctuated moderately, remaining stable

between 2 and 4 citations per year, with a noticeable rise around 2018–2020, indicating increased attention to publications during this period. The peak in 2020 highlights the highest citation impact, suggesting the significance of research published that year. However, a consistent decline is observed post-2020, with the steepest drop from 2023 to 2024, potentially due to reduced interest in older studies, shifting research trends, or incomplete citation data for recent years. This trend

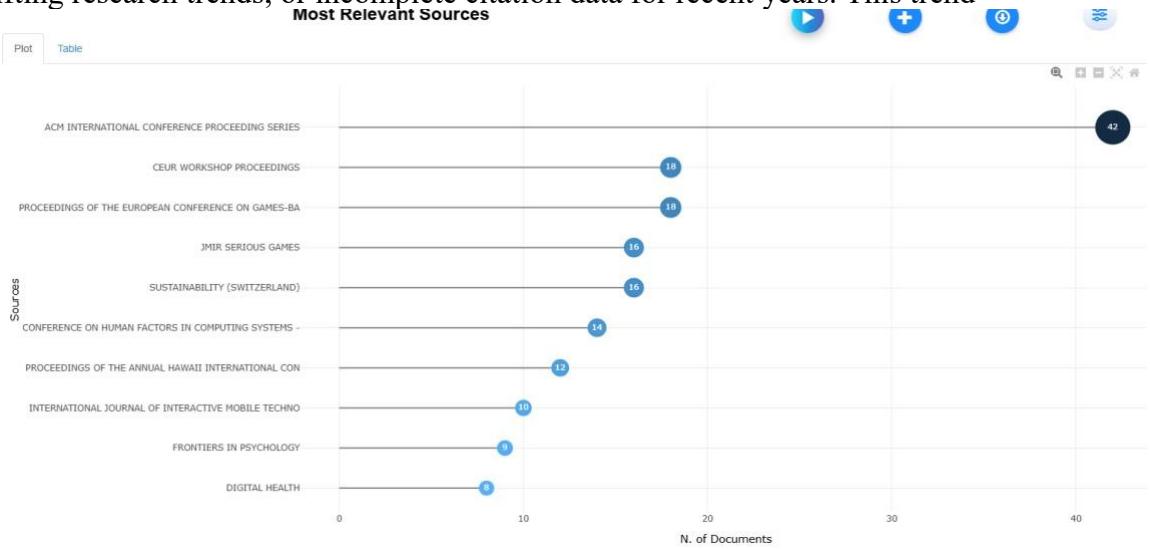

Figure 4: Most Relevant Source

The chart shows the most relevant sources of gamification studies, particularly in social commerce. The chart is a representation of academic journals and conference proceedings on the total number of papers published in reference to the subject of study. The ACM International Conference Proceeding Series is ranked number one as the most frequent source with 42 publications. Following this, CEUR Workshop Proceedings and Proceedings of the European Conference on Games-Based Learning both submit 18 papers each, as they have a crucial role to play in advancing gamification research.

JMIR Serious Games and the Sustainability journal published by Switzerland both have 16 articles, demonstrating interdisciplinary significance integrating gamification with health, sustainability, and technological use. The Conference on Human Factors in Computing Systems has 14 articles, which demonstrate the applicability of human-computer interaction to gamification research. The Proceedings of the Annual Hawaii International Conference offer 12 papers, and subsequently, the International Journal of Interactive Mobile Technologies offers 11 articles, in keeping with the growing trend for mobile-based gamification research.Lastly, Frontiers in Psychology and Digital Health contain 9 and 8 pieces of work respectively, which encapsulate the psychological as much as the health sides of gamification. This visualization clearly shows the prominent sources underlying academic debate around gamification, highlighting a broad array of fields intersecting with this phenomenon, ranging from computer science and business to health, psychology, and sustainability.

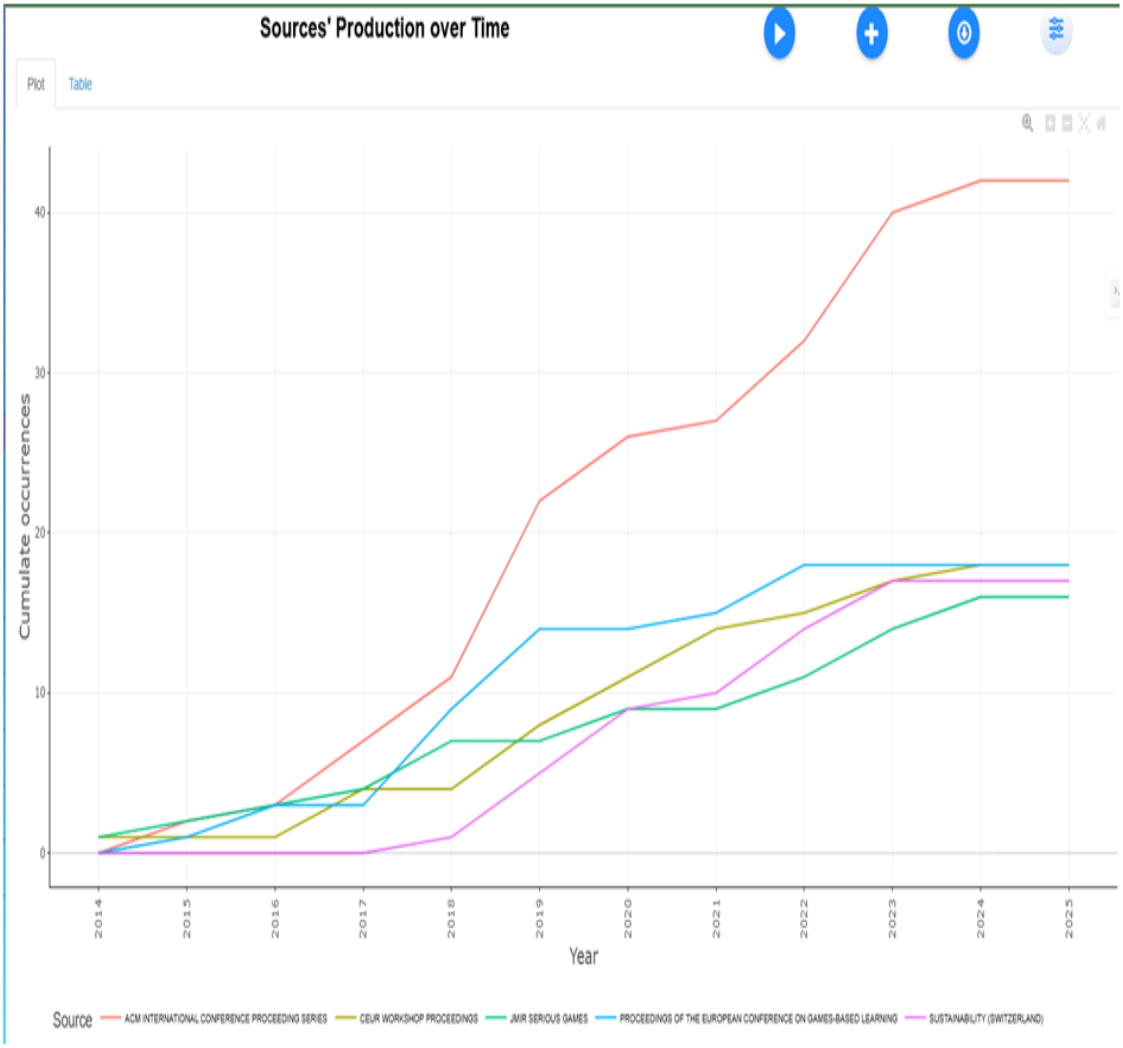

Figure 5: Source's Production Over Time

The graph illustrates the cumulative production of scholarly sources over time, highlighting the growth and dissemination of research in gamification. The x-axis represents the years from 2014 to 2025, while the y-axis denotes the cumulative occurrences of publications. The different lines correspond to various sources contributing to gamification research, including the ACM International Conference Proceedings Series, CEUR Workshop Proceedings, JMIR Serious Games, Proceedings of the European Conference on Games-Based Learning, and Sustainability (Switzerland).

The ACM International Conference Proceedings Series demonstrates the highest cumulative growth, significantly increasing its contribution from 2016 onward and showing a sharp rise after 2018. This suggests a strong and sustained interest in gamification research within this academic venue. The CEUR Workshop Proceedings also exhibit steady growth, particularly between 2017 and 2021, where its cumulative occurrences increased considerably before stabilizing. JMIR Serious Games, which focuses on digital gaming applications in healthcare and well-being, shows a gradual increase in publications, indicating a rising academic interest in the intersection of gamification and health sciences.

The Proceedings of the European Conference on Games-Based Learning reflect a similar trend, with a notable increase in publications after 2018, reinforcing the importance of gamification in educational research. Sustainability (Switzerland) follows a consistent upward trajectory, indicating the growing recognition of gamification in the context of sustainability and environmental

applications. The overall trend in the graph highlights a continuous expansion of gamification research across multiple disciplines, with a peak in cumulative publications occurring between 2020 and 2023. This pattern signifies the increasing academic attention and the interdisciplinary nature of gamification studies, spanning technology, education, health, and sustainability.

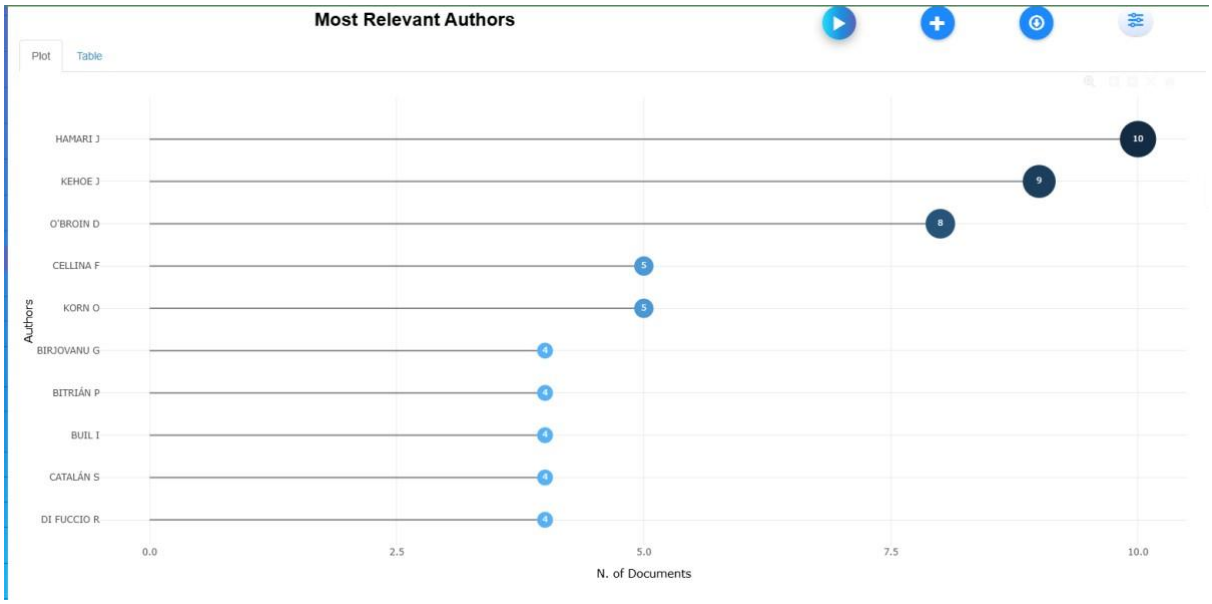

Figure 6: Most Relevant Authors

The chart highlights the most relevant authors in a specific research field based on the number of documents they have contributed. Hamari J is the most prolific author, with 10 publications, establishing him as a key thought leader. Kehoe J follows closely with nine documents, while O'Broin D has contributed 8, making them significant contributors. Moderately influential authors like Cellina F and Korn O have each published five documents. Other contributors, including Brijovanu G, Britain P, Buil I, Catalán S, and Di Fuccio R, have each contributed a single document. Though their publications are smaller, they might provide key input in their specialties. The output of Hamari J, Kehoe J, and O'Broin D will remain the highest to create a broader context of understanding the discipline. At the same time, emerging schools of thought through other researchers may supplement general study efforts.

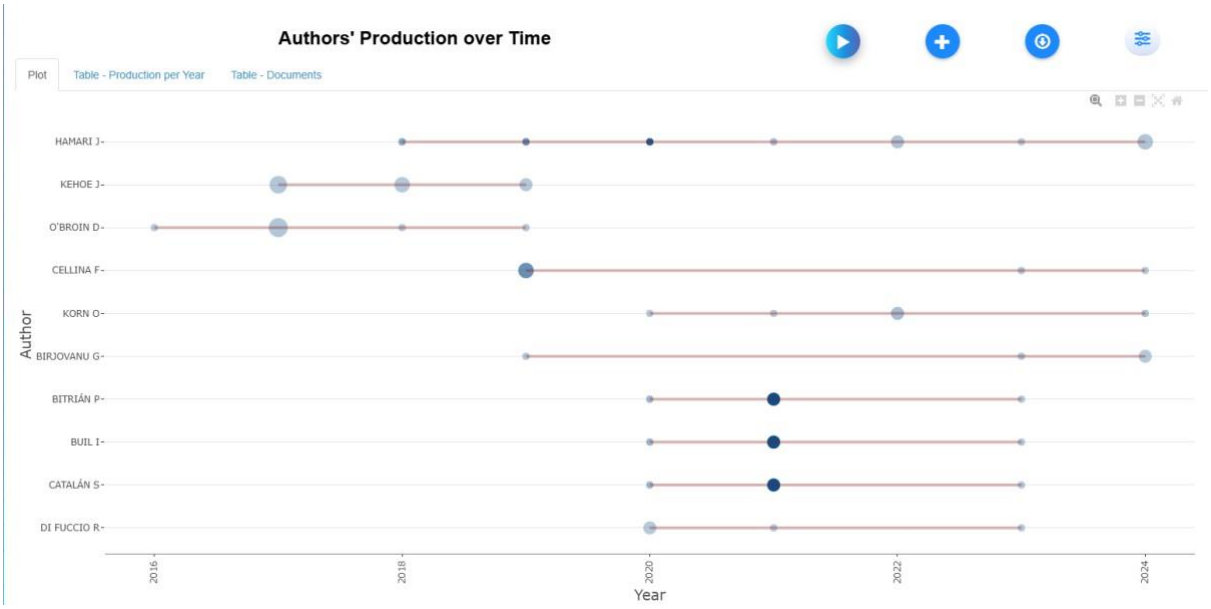

Figure 7: Author's Production Over Time

The graph plots the productivity year after year for various authors that were published between 2016-2024, hence indicating trends for each of them. Hamari J. and Kehoe J. reflect consistent contributions throughout the period, indicating persistent research activity. O'Broin D. and Cellina F. also illustrate consistent activity with fluctuations. Different contributors have come into view only recently, like Buil I., Catalán S., and Di Fuccio R. They have publications, most of their work concentrated in recent years. The darkest circles, indicating more excellent production in specific years, highlight periods of productivity, like Birjovanu G.'s productivity from 2020 to 2022. This chart highlights a combination of established and rising research trends.

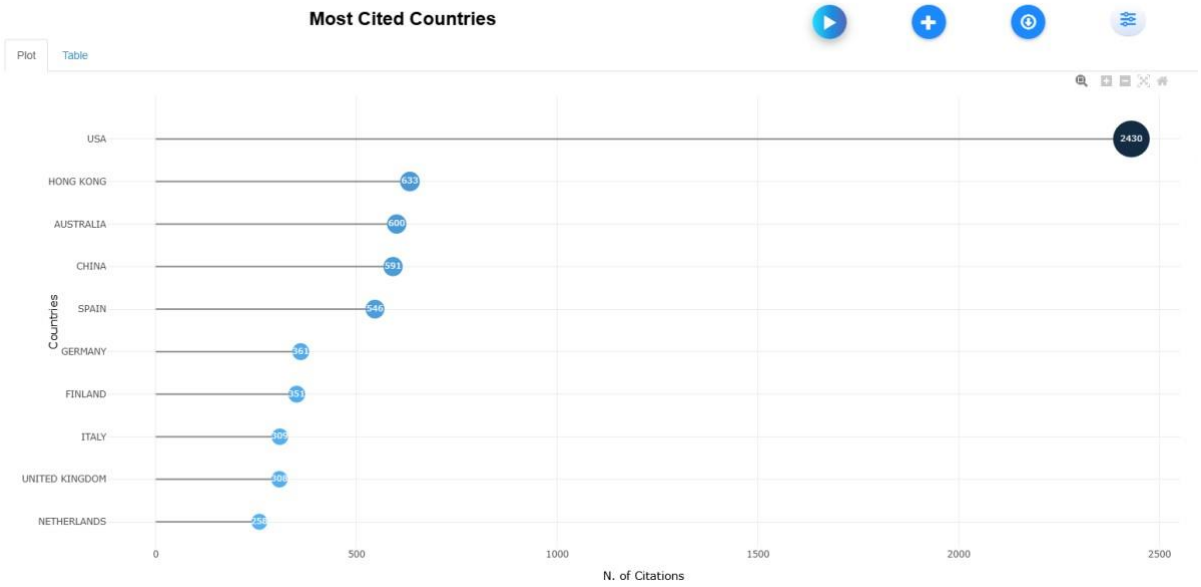

Figure 8: Most Cited Countries

The graph presents an overview of the most cited countries in gamification research, highlighting the geographical distribution of influential academic contributions. The x-axis represents the number of citations, while the y-axis lists the countries that have received significant academic recognition in this field. The United States leads by a significant margin, with 2,430 citations, indicating its

dominant role in shaping gamification research. This suggests that a substantial portion of impactful studies and foundational literature originate from institutions and scholars based in the United States. Following the United States, Australia, China, and Hong Kong have made considerable contributions, with citation counts of 600, 591, and 533, respectively. These figures reflect the strong research output and influence of these regions in gamification studies, likely due to the integration of gamification in education, business, and technological innovation. Spain also holds a notable position with 546 citations, showcasing its growing influence in this domain.

Germany and Finland have received 431 and 331 citations, respectively, demonstrating Europe's role in advancing gamification research, particularly in areas such as education, human-computer interaction, and behavioral sciences. Italy, the United Kingdom, and the Netherlands round out the list with 306, 304, and 295 citations, respectively, suggesting that these countries have also contributed significantly to the discourse, albeit at a slightly lower scale compared to the leading nations.

Overall, the graph illustrates the global distribution of gamification research influence, with the United States maintaining a leading role, followed by key contributions from Australia, China, and European nations. The citation patterns suggest a strong academic presence in technologically advanced and innovation-driven regions, reinforcing the interdisciplinary nature of gamification studies across education, business, and digital technology.

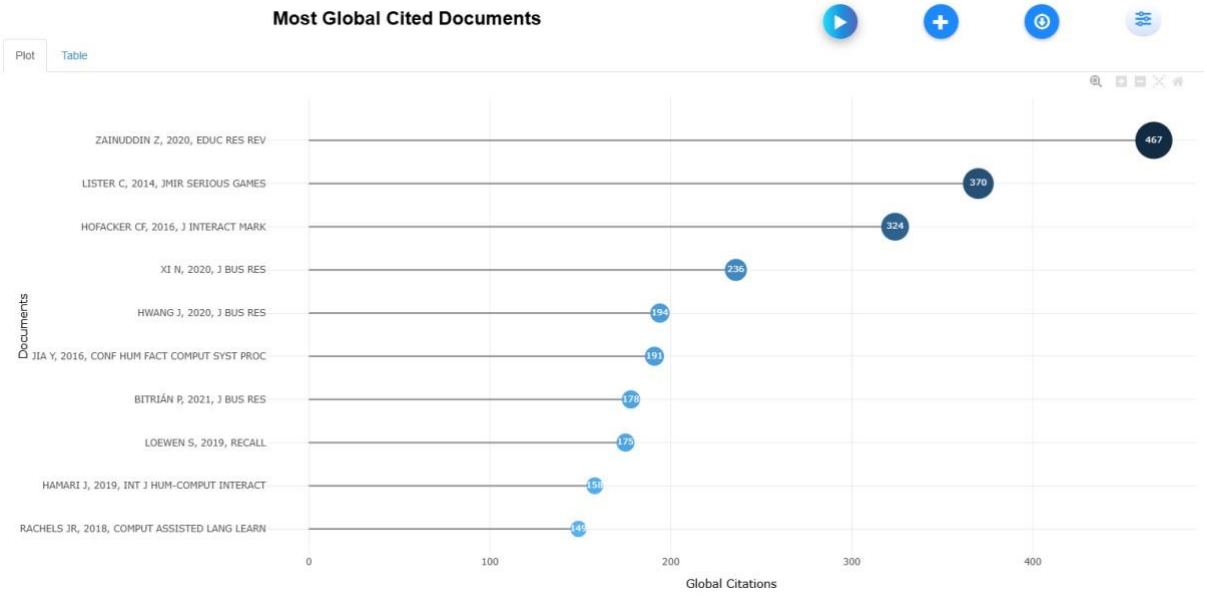

Figure 9: Most Global Cited Document

The image depicts a bar graph titled "Most Global Cited Documents," showcasing the top ten scholarly works ranked by their global citation count. The document by Zainuddin Z. (2020) leads with 467 citations, followed **by** Lister C. (2014) with 370 and Hofacker CF. (2016) with 324. The other documents show a gradual decline in citations, with the lowest being **Rachels** JR. (2018) at 44 citations. This visualization highlights influential works within the field, allowing researchers to identify key literature with significant academic impact. It aids in understanding the prominence of specific authors or topics within the scholarly community.

Figure 10: The Word Cloud

The word cloud visually emphasizes the prominence of the term "gamification," which appears as the central focus, highlighting its importance in related research. Gamification is an interdisciplinary concept that integrates game-like elements into non-game contexts to enhance user engagement and motivation. The word cloud highlights key themes associated with gamification, emphasizing its application in e-learning, mobile applications, and humancomputer interaction. The prominence of terms such as "motivation," "students," and "learning systems" suggests that gamification is widely used in educational settings to improve student engagement and learning outcomes. Additionally, the inclusion of words like "behavioral research," "psychology," and "health" indicates a strong focus on understanding the cognitive and behavioral impacts of gamified systems. The presence of terms such as "augmented reality," "serious games," and "mobile computing" underscores the integration of emerging technologies in gamification, enabling innovative learning experiences. Furthermore, demographic references such as "male," "female," "adult," "adolescent," and "young adult" suggest that gamification research considers diverse user groups and their varying responses to gamified interventions. The inclusion of "user interfaces" and "design" highlights the importance of usability and interaction design in creating effective gamification strategies. Overall, the word cloud reflects the multifaceted nature of gamification, demonstrating its significance in education, technology, psychology, and health. The growing interest in gamification research indicates its potential to enhance learning, behavior, and engagement across various domains.

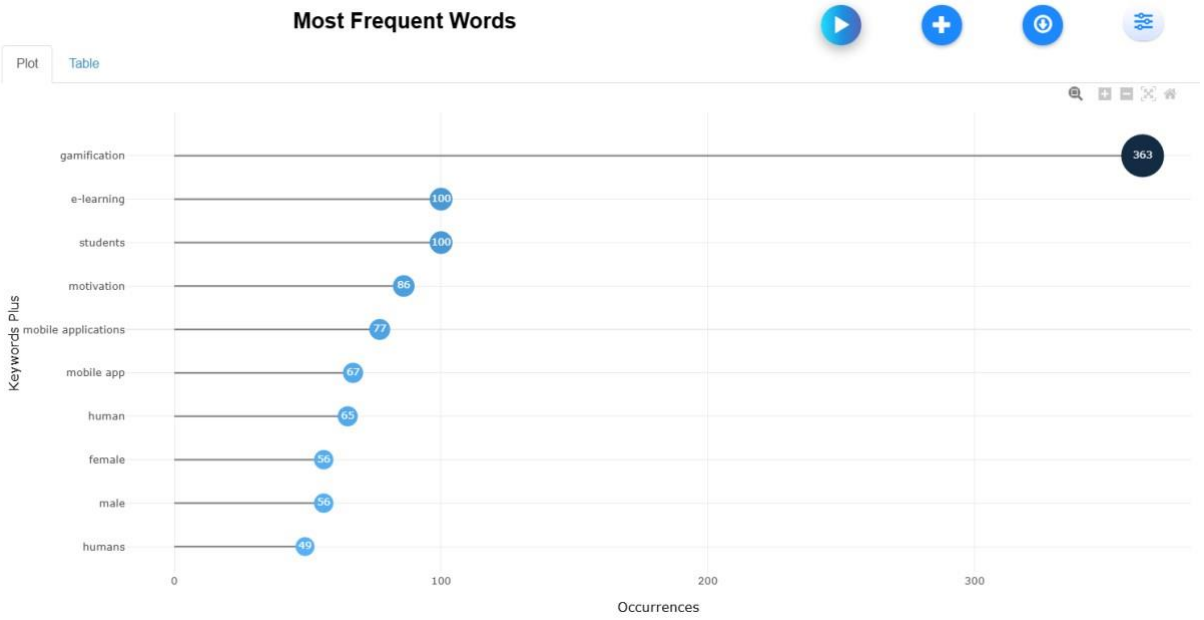

Figure 11: Most Frequent Works

The image displays a bar chart titled "Most Frequent Words," showing the occurrences of keywords related to gamification and its application in various fields. The highest occurring word is "gamification," with a count of 363, indicating its central role in the analyzed dataset. Following this, "e-learning" and "students" each appear 100 times, suggesting a strong correlation between gamification and education, particularly in student engagement and digital learning environments. The term "motivation" appears 86 times, highlighting the significance of gamification in fostering motivation among learners and users. Additionally, "mobile applications" (77 occurrences) and "mobile app" (67 occurrences) suggest that gamification is frequently implemented in mobile-based learning and interaction platforms. The presence of "human" (65 occurrences) and "humans" (49 occurrences) reflects the human-centered nature of gamification research, emphasizing its impact on behavior and engagement. The terms "female" and "male," both appearing 56 times, indicate a balanced consideration of gender differences in gamification studies. Overall, the frequency distribution of these words reinforces the interdisciplinary nature of gamification, particularly its application in educational technology, behavioral research, and mobile learning. The data suggests that gamification plays a critical role in enhancing student motivation and engagement, particularly within e-learning and mobile applications.

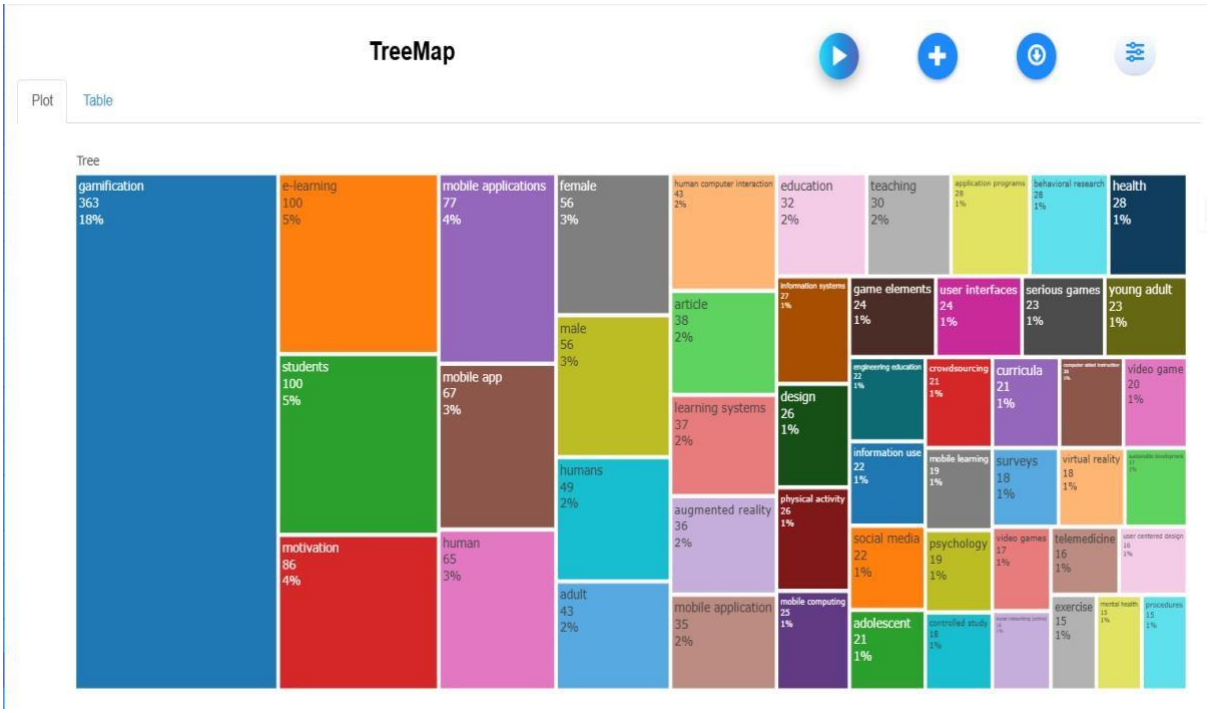

Figure 12: Tree Map

The treemap visualization provides a structured representation of the most frequently occurring words related to gamification. Each rectangular block represents a keyword, with the size of each block corresponding to its frequency in the dataset. The largest block is "gamification," with 363 occurrences, making up 18% of the total dataset. This dominance highlights gamification as the primary focus of the research.

Following this, "e-learning" and "students" both appear 100 times (5% each), indicating that gamification is strongly associated with digital learning environments and student engagement. "Motivation" (86 occurrences, 4%) also holds significant importance, reflecting its role as a key driver in gamified learning systems. Other prominent terms include "mobile applications" (77 occurrences, 4%) and "mobile app" (67 occurrences, 3%), emphasizing the increasing use of gamification in mobile learning platforms. The terms "human" (65 occurrences, 3%), "humans" (49 occurrences, 2%), "female" (56 occurrences, 3%), and "male" (56 occurrences, 3%) suggest a human-centered approach in gamification studies, considering both gender and broader human behavior aspects.

Additionally, terms such as "education" (32 occurrences, 2%), "teaching" (30 occurrences, 2%), and "learning systems" (37 occurrences, 2%) reinforce the integration of gamification into educational methodologies. Emerging technologies and methodologies are also represented, with terms like "augmented reality" (26 occurrences, 1%), "serious games" (23 occurrences, 1%), and "virtual reality" (18 occurrences, 1%) showcasing the role of advanced digital tools in gamified environments.

Smaller blocks in the treemap, such as "behavioral research," "psychology," "physical activity," and "telemedicine," indicate interdisciplinary applications of gamification beyond education, extending into health sciences and social research. Furthermore, "game elements" (24 occurrences, 1%) and "user interfaces" (24 occurrences, 1%) highlight the role of design and interactivity in gamified experiences.

Overall, the treemap effectively visualizes the interconnected themes within gamification research, demonstrating its broad applicability across education, technology, health, and behavioral sciences. The frequency distribution of keywords suggests a growing interest in leveraging gamification to enhance motivation, engagement, and learning outcomes across various domains.

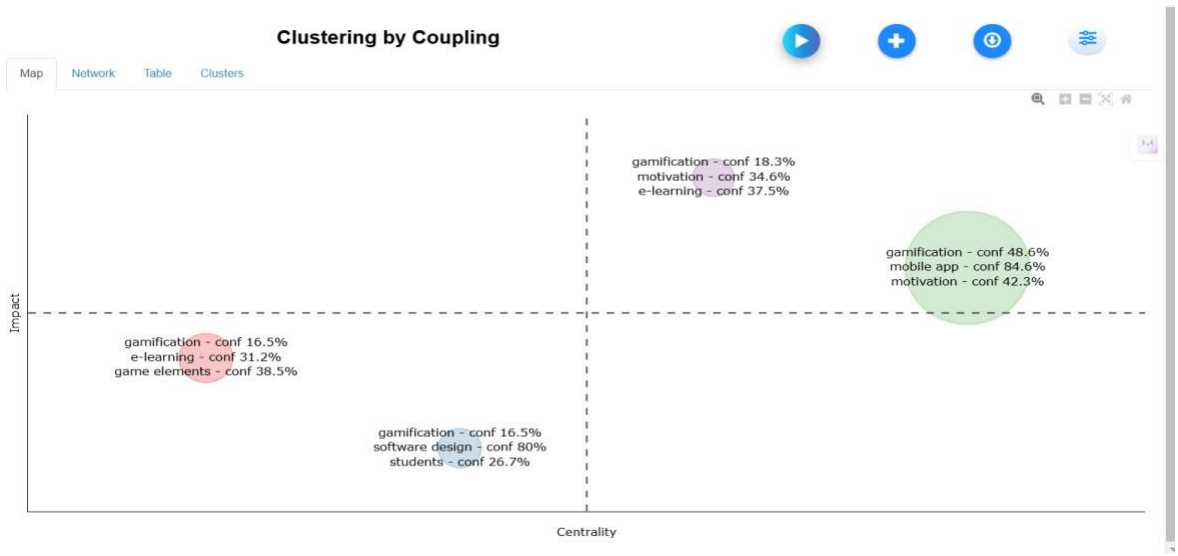

Figure 13: Clustering by Coupling

The chart titled "Clustering by Coupling" illustrates the relationship between centrality (importance within the network) and impact (influence across the network) of keywords related to gamification. The visualization is divided into four quadrants. The upper-right quadrant contains terms with both high centrality and high impact, including "gamification" (48.6%), "mobile app" (84.6%), and "motivation" (42.3%), indicating these are core and highly influential themes in the context studied. The upper-left quadrant features terms like "elearning" (37.5%) and "motivation" (34.6%), which are impactful but less central. The lowerleft quadrant includes "gamification," "e-learning," and "game elements," which, while present, have lower centrality and impact in this cluster. Finally, the lower-right quadrant has "gamification," "software design," and "students," reflecting moderate centrality but lower impact. This clustering reflects the fact that gamification, specifically in mobile apps and motivation, is a pivotal area of focus and is strongly linked with educational and technology applications.

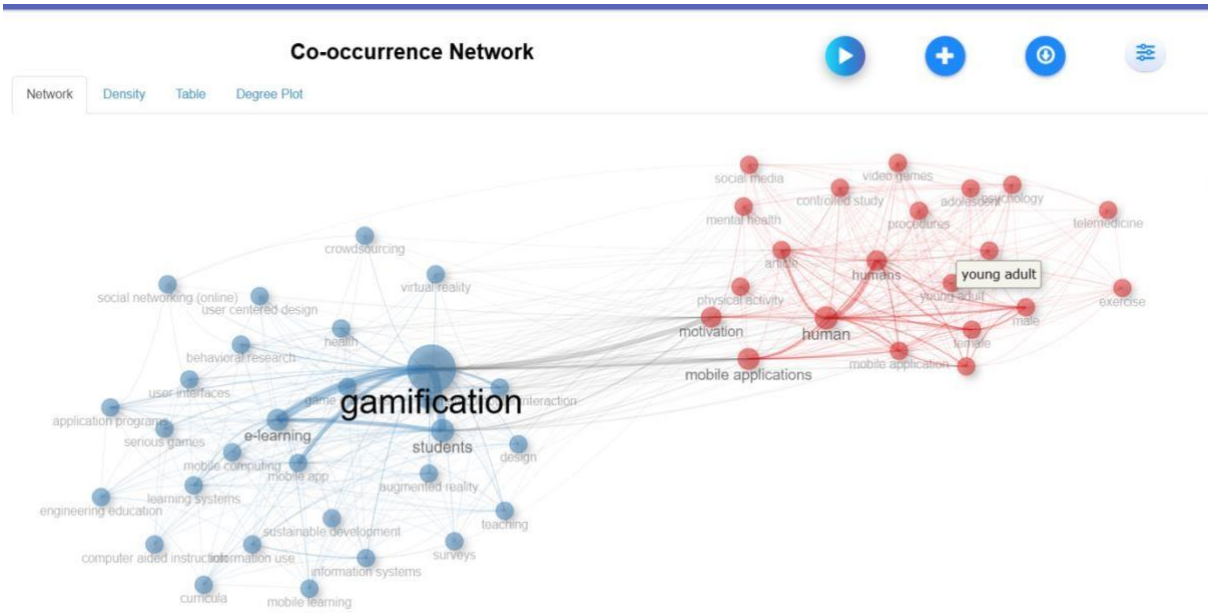

Figure 14: Co-occurrence Network

The co-occurrence network shows the interactions among terms concerning "gamification" and the highly interdisciplinary nature. The network is divided into two clusters: the blue cluster focuses on technology and education, with words like "e-learning," "students," "mobile learning," and "virtual reality." In contrast, the red cluster focuses on human behavior, psychology, and health, with words like "motivation," "mental health," and "young adult." The node sizes, particularly "gamification," reflect their importance, and the edges connecting the nodes symbolize the strength of relationships between the terms. Overall, the network illustrates how gamification closes the gap between educational and psychological fields, blending technical methods with human-oriented themes.

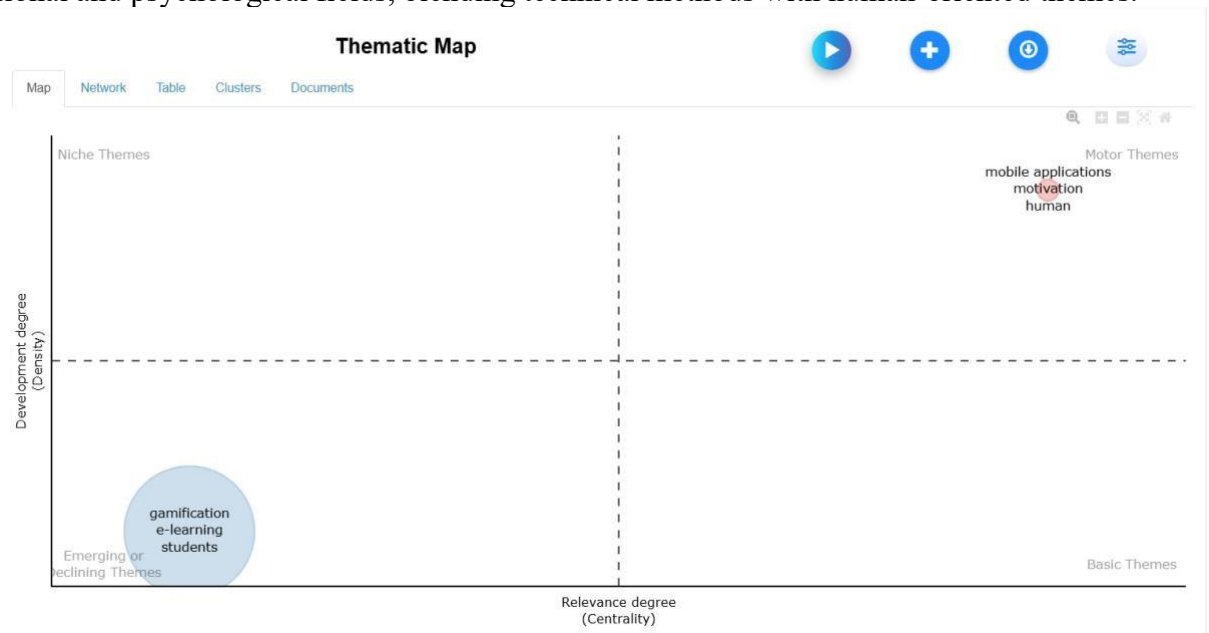

Figure 15: Thematic Map

The thematic map categorizes concepts based on centrality (salience) and density (completeness) within the matrix of "gamification." The map divides themes into four quadrants: Motor Themes (upper-right), Basic Themes (lower-right), Emerging or Dwindling Themes (lower-left), and Niche

Themes (upper-left). In this visualization, "mobile applications," "motivation," and "human" are placed in the Motor Themes quadrant, showing that these themes are both powerfully relevant (central) and extensively developed (dense) and are key drivers of discussions and research. On the other hand, "gamification," "e-learning," and "students" fall in the Emerging or Declining Themes quadrant, which means that while these words are less developed and core in this data set, they are growth areas or topics that would be valuable to continue to work on so that they are more significant. The lack of data for the other two quadrants indicates overconcentration on core and growth themes, with no clear niche areas present in the dataset. Overall, the map indicates a majority focus on gamification for motivational and practical reasons, with scope for development in educational use.

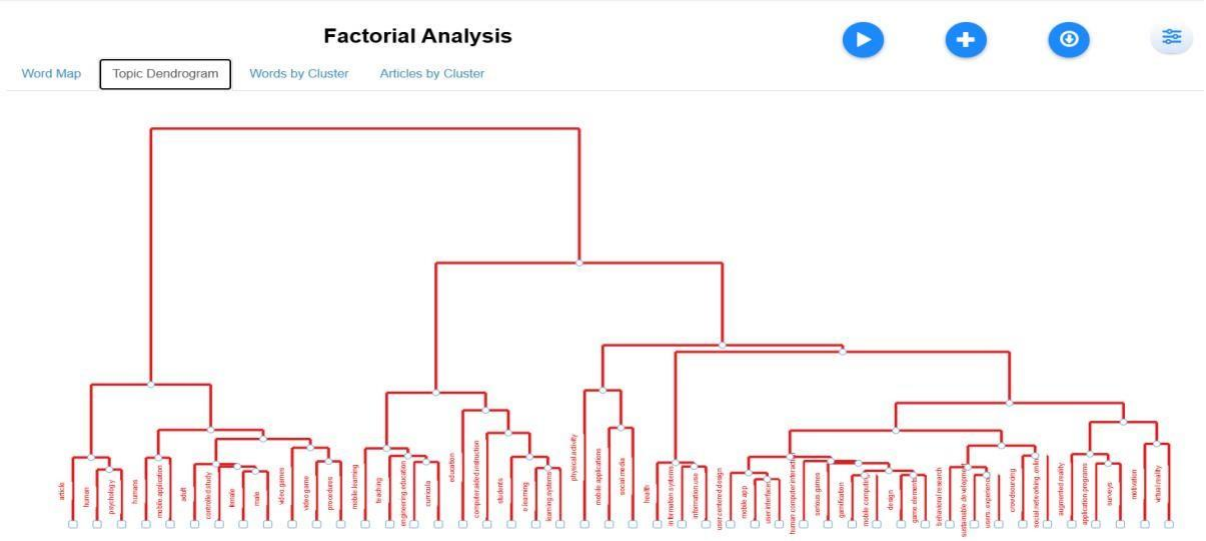

Figure 16: Factorial Analysis

The illustration of a dendrogram in a factorial analysis represents a hierarchical clustering analysis in the form of a topic dendrogram, generated through factorial analysis. The dendrogram visually depicts the relationships and groupings of various topics based on their similarity. The hierarchical structure starts from a single root node at the top and branches out into multiple subclusters, which further divide into smaller, more specific topics. The branches are connected by red lines, indicating the degree of similarity or distance between topics, with closely related topics positioned nearer to each other. At the bottom of the dendrogram, individual topics are labeled with their corresponding names, representing different thematic areas covered in the analysis. The interface includes various navigation options, such as "Word Map," "Topic Dendrogram," "Words by Cluster," and "Articles by Cluster," suggesting that the platform offers multiple ways to explore and interpret the data. The presence of icons for play, add, and settings in the top-right corner indicates that the visualization is interactive, potentially allowing users to modify clustering parameters, explore different levels of granularity, or animate the clustering process. The overall structure suggests that the analysis was conducted to uncover hidden patterns and relationships among a set of documents, articles, or research topics, making it a useful tool for topic modeling and knowledge discovery.

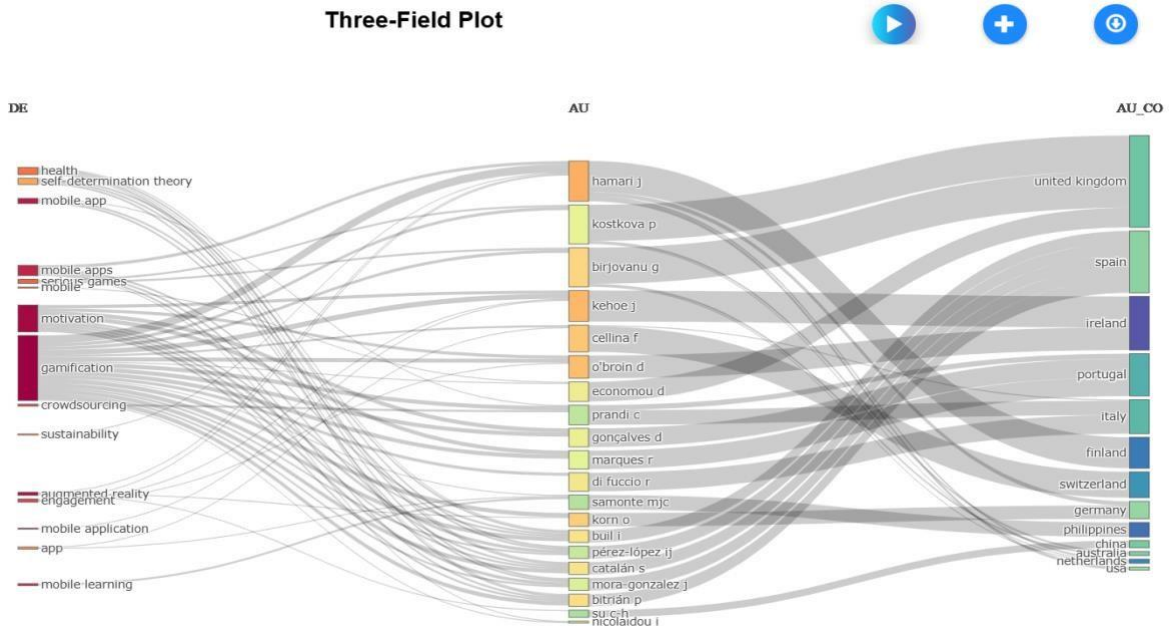

Figure 17: Three-Field Plot

The following Three-Field Plot illustrates the connection between keywords (DE), authors (AU), and related countries (AU_CO) in the gamification study. This visualization helps in identifying key contributors, their thematic focus, and the geographical distribution of research efforts. The presence of interactive elements (such as the play button and add button) suggests that users may be able to manipulate or explore the data further, possibly filtering results based on specific topics, authors, or regions. This type of analysis is useful for understanding academic collaborations, research trends, and the international scope of a particular field of study. On the left side, keywords (DE) such as "motivation," "gamification," "health," "mobile apps," and "self-determination theory" mark the principal topics of the study. The middle column cites authors that are developing these topics, leading names such as Hamari J, Kostkova P, and Cellina F, signifying their central position in connecting most of the keywords. To the right, the countries (AU_CO) illustrate the geographical distribution of these authors, with Spain, Portugal, the United Kingdom, and Italy being the leading contributors to this literature. The nodes' relationships on the plot disclose collaboration trends as well as topical areas; e.g., authors such as Hamari J are associated with strongly recurring topics "motivation" and "gamification," and nations such as the UK and Spain demonstrate robust output in the areas of health and mobile applications. The high-level interconnectivity points to the worldwide endeavor toward incorporating gamification with health, education, and sustainability, where its interdisciplinary focus is highlighted. The visualization further points to Europe's leadership in this research, although there have been some regional contributions from Asia and the Americas. The whole plot shows that the research work in gamification is diverse but not disconnected when considering themes, researchers, or regions.

3. FINDINGS

The study points to an impressive increase in gamification publication, with a peak between 2021 and 2023, and the USA as the most influential contributor. It categorizes "motivation" and "mobile applications" as major themes, pointing out their critical role in engaging users and making purchasing decisions. The study also finds strong international collaborations, in which 18.96% of the papers had international co-authorship. The study suggests that marketers and platform developers must assign very high priority to integrating game-like elements like rewards, challenges, and

leaderboards into social commerce platforms. Such initiatives can boost user engagement, build trust, and influence purchasing decisions. Marketers must also personalize gamified experiences in different cultural contexts to gain better outcomes.

4. CONCLUSION

The research acknowledges the increased relevance of gamification to social commerce, specifically in impacting the behavior and engagement of users. Informed by an exhaustive bibliometric overview, the research identifies patterns of growth in research, authors, and global cooperation within the multi-disciplinary context. The results also identify the key contributions of gamification in improving the online user experience and promoting innovative adoption in education, technology, and healthcare.

Some of the highlights include the frequency of subjects like "motivation" and "mobile applications," which reflect the impact of gamification on consumerism. The USA's high research productivity underpins its leading role, but the new world emphasizes other socioeconomic uses. However, the post-2023 drop in publication frequencies certainly questions the long-term research interest, perhaps necessitating the exploration of as yet uncharted territories such as cultural and contextual factors in gamification. As gamification in social commerce has been value-pioneering, future research has to fill in gaps and venture into newer areas to make it meaningful in a constantly changing digital world.

5. PRACTICAL IMPLICATION

1. Academicians: The findings of this research provide significant implications for academicians who study gamification in social commerce. This research contributes to the body of literature by presenting a bibliometric analysis that maps significant trends, leading researchers, and dominant themes in gamification research. Academicians and researchers can leverage this research to make a critical examination of the research gaps and future study possibilities, particularly in developing economies whose gamification adoption is yet to mature. Additionally, this research points to cross-disciplinary research opportunities since gamification converges with psychology, marketing, and behavioral economics. The results accessed through this research can also be used to make theoretical models within digital marketing, e-commerce, and consumer behavior contexts. Subsequent research can look into the lasting impact of gamification on users' participation, trust, and brand loyalty in various industries.
2. Business: Firms can utilize the findings of this study to enhance their advertising campaigns and consumer engagement activities. Gamification has proven to be an effective intervention in boosting customer retention, promoting brand engagement, and fostering a positive consumer experience. Marketers can use game-based methods, such as leaderboards, rewards schemes, and interactive challenges, to encourage user participation and brand advocacy. Personalization is another key aspect that must be considered—experiences that are gamified according to each user's interests can have a significant influence on conversion rates and satisfaction. Firms can also integrate AI-driven gamification techniques in order to enhance predictive analytics and customer behavior modeling to make it a more accurate and engaging experience for users. Organizations operating in markets can stand out by utilizing gamification as a way to create unique and memorable digital experiences that create brand loyalty and enduring customer relationships.
3. Society: Beyond commercial applications, gamification has tremendous social advantages. Within the educational space, gamification can promote digital literacy, placing learning on an interactive and entertaining platform accessible to students of any age group. Educators and policymakers may use gamified learning platforms to improve knowledge retention and motivation within learning environments. Gamification may also be used in the health sector to encourage healthier lifestyles, such as exercise tracking, drug adherence, and mental wellness programs. Social

commerce platforms can use gamification to reward sustainable and ethical consumption behaviors and good brands, encouraging green brand support and good consumption practices. Additionally, policymakers can use gamification techniques to increase civic engagement, such as participatory campaigns to boost voter turnout, community involvement, and responsiveness to social problems. By using gamification in various sectors of society, stakeholders are able to create more interactive, useful, and efficient experiences for people and communities.

4. Policy makers and Regulators: Policymakers can be informed by the findings of this study to develop guidelines and regulations for ethical gamification in social commerce. As gamification elements are inherently persuasive in design and nudge behavior, transparency, consumer protection, and fair use of data are critical. Policymakers can utilize learnings from this study to evolve frameworks that preclude manipulative use but facilitate innovation. In addition, policymakers can promote digital literacy initiatives that educate consumers regarding gamification strategies used in online platforms, so they can make informed purchasing decisions.
5. Technology Creators and Platform Designers: Social commerce platform creators can utilize the findings of the study to enhance gamified features, making them more engaging and easy to use. By understanding the psychological and behavioral motivations of consumer engagement, designers can create user-friendly and accessible gamification functionalities. The union of AI, AR, and blockchain can also render gamified experiences more personalized and secure, ensuring trust and fairness for reward systems. Technology companies can also create adaptive gamification techniques that are attractive to various user demographics, making accessibility cut across age and cultural barriers.
6. Entrepreneurs and Start-up: Start-up venturing into the social commerce space can leverage gamification to acquire a competitive edge. The study provides actionable advice on the most effective gamification strategies for inducing brand awareness, user engagement, and conversions. Small business operators can utilize low-budget game mechanics, such as referral programs, social challenges, and milestone rewards, to induce viral marketing and word-ofmouth expansion. Small businesses can also solve their gamification adoption issues, like limited budgets and technical limitations, by benefiting from this study.
7. Investors and Venture Capitalists : The findings of this study can guide investors in making decisions regarding the viability of gamification-driven social commerce companies. As gamification shapes online consumer behaviour, investment firms can identify new startups and established firms that use new engagement methods. Understanding the impact of gamification on user retention and revenue generation allows investors to make decisions when investing in online commerce ventures. In addition, results from this research can help investors determine industry trends and anticipate future shifts in consumer behavior.
8. Sustainable and Ethical Commerce Advocates: Sustainable and ethical consumption advocates can use gamification methods to encourage good consumer behavior. This study reveals how gamification can encourage users to adopt responsible consumption patterns, such as buying green brands and fair-trade products. Charities and businesses are able to craft gamified rewards that incentivize sustainable actions, such as contests to reduce a carbon footprint or green-loyalty programs. Gamification also can be embedded on social commerce websites to induce ethical sourcing openness and CSR programs, which encourage consumer trust as well as business reputation.

6. LIMITATIONS

Apart from its contribution, this study has some limitations. Firstly, bibliometric analysis is based only on the Scopus database, which is not likely to capture all the publications relevant in this area. Secondly, the research deals with studies published between 2014 and 2025 and is likely to miss out

on the earlier foundational studies that might offer more insight. Third, while the research does point to emerging trends, it does not examine the qualitative impact of gamification strategies on consumer behavior at length. Industry-specific differences, which could impact the ability of results to be generalized across multiple market segments, are not accounted for in the research.

7. FUTURE SCOPE

This study offers an in-depth overview of gamification of social commerce, highlighting the top trends and contributions between 2014-2025.

There may be scope for further research in this rapidly evolving area in any event. Subsequent research could explore how each of these elements of gamification, such as rewards, badges, and leaderboards, works well to generate user interest and drive purchasing on various social commerce sites. Further available is the ability to study the mechanisms through which socioeconomic and cultural forces drive gamification take-up, particularly in the instance of emerging economies whose digital adoption patterns and consumer behaviors are entirely different from mature economies. Coupled with the above, deeper research into the incorporation of best-in-class technologies like AI, VR, and AR in gamified experience can be undertaken with a view to learning how they influence user satisfaction, as well as the formation of trust. Longitudinal studies can help assess the extent to which gamification tactics contribute to long-term customer loyalty and retention. Cross-country research and international partnership can provide valuable insights into global dynamics and best practice. Another area of emerging inquiry is the potential for gamification to introduce green and ethical buying habits, perhaps leading to green consumer choice. Closing some of the gaps that already exist, such as providing standardized procedures to gauge the effectiveness of gamification or its correlation with other social commerce determinants such as trust, social presence, and online reviews, would be of great value. Lastly, exploring AI-based tools and algorithms for creating personalized gamified experiences can further enhance consumer satisfaction and interactivity, adding new dimensions to social commerce in the digital age.

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