



# From Screens to Sales: Unravelling the Live Streaming Commerce Revolution through Bibliometric Analysis

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Live streaming commerce, often referred to as live shopping or livestream shopping, represents a novel convergence of e-commerce, live video broadcasting, and interactive social media elements. This burgeoning domain has garnered significant scholarly interest, as evidenced by a growing number of researchers who have earnestly engaged in its investigation. To discern comprehensive insights into the current research landscape of live stream commerce, the study performed a bibliometric analysis, leveraging the Web of Science (WOS) database, yielding a corpus of 315 research publications. The discerned findings of this systematic analysis serve as a valuable resource for researchers, practitioners, and policymakers vested in the domain of live commerce. Specifically, they offer a means to ascertain pertinent literature, comprehend the existing knowledge base, identify potential avenues for collaborative endeavours, and engender novel research trajectories and concepts.

**Keywords:** Live streaming commerce, E-commerce, Bibliometric analysis

## Introduction

E-commerce has been progressively enhancing its economic significance through the integration of novel software and applications aimed at augmenting user engagement. One of its expressions is the rise of live streaming commerce<sup>1</sup>. A notable illustration of the prominence of live shopping can be observed in China, where, as of June 2022, the country boasted a staggering 841 million online shopping users, accounting for 80% of its Internet user base. Among Chinese netizens, live shopping has gained substantial popularity, emerging as a significant and favoured method of consumption<sup>2</sup>.

In the context of live streaming commerce, a presenter or influencer takes center stage, conducting real-time presentations and demonstrations of a plethora of products while actively engaging with the viewers<sup>3</sup>. The presenter's role is to entice viewers into making purchases, achieved through comprehensive product information dissemination, prompt responses to inquiries, and the skillful creation of a sense of urgency and excitement. Crucially, viewers play an interactive role in the process, as they can actively participate by asking questions, leaving comments, and directly making purchases during the livestream event.

Due to its participatory nature and ability to give a more immersive shopping experience as compared to typical internet shopping, live streaming commerce has grown rapidly in popularity<sup>4</sup>. It enables viewers to watch things in action, ask real-time enquiries, and receive rapid solutions. The combination of live streaming and e-commerce can provide consumers with a more engaging, real-time, and immersive shopping experience in the interactive online virtual world<sup>5</sup>. Overall, live streaming commerce provides a dynamic and interactive purchasing experience, bridging the gap between online and physical retail by harnessing the power of real-time engagement and live video to drive sales<sup>6</sup>.

In fact, the impact of COVID-19 on live streaming business is enormous and cannot be overlooked. Due to the pandemic's high contagiousness, governments were forced to curtail or halt face-to-face exchanges. It also has an impact on traditional marketing channels, logistics hubs, and consumer purchase habits<sup>7</sup>. Although circumstances have recovered, the fact that live streaming commerce saw substantial development during this time period remains.

Bibliometric approaches employ quantitative tools to analyse and measure trends in the publication and

citation patterns within academic literature. These methods involve the statistical analysis of bibliographic data, encompassing the volume of publications, the frequency of citations, and the intricate network of citations between various publications<sup>8</sup>. Widely acknowledged as a robust means of observation and study, bibliometric techniques have found widespread application across diverse academic disciplines, including physics, biomedical sciences, medicine, as well as library and information science, throughout recent decades<sup>9</sup>. In essence, bibliometric approaches serve as a valuable mechanism for evaluating research productivity at individual, group, institutional, or even national levels, unveiling significant trends and patterns in research activities<sup>10</sup>. Moreover, these approaches facilitate the assessment of research impact and the identification of seminal publications or influential researchers within specific subject domains<sup>11</sup>. Through their comprehensive quantitative analysis, bibliometric techniques have proven to be indispensable tools for gaining insights into the scholarly landscape and shaping research evaluation practices.

According to our statistics, 942 researchers have currently undertaken studies on live streaming commerce, and it is vital to review what has been done in this subject. Through bibliometric analysis, this paper contributes to live streaming commerce by addressing the following research questions:

- What are the popular topics and themes explored in live streaming commerce research from 2019 to 2023?
- What are the most cited and influential papers in the field of live streaming commerce during the period of 2019 to 2023?
- Which countries or regions have contributed significantly to the research on live streaming commerce during the specified timeframe?
- How has live streaming commerce evolved over the years in terms of research output and trends?

Addressing the aforementioned issues, this paper conducted a bibliometric analysis by retrieving 315 relevant articles from the Web of Science database. To bolster the empirical foundation, comparisons were drawn with recent studies, including the work undertaken by Luo<sup>12</sup>. The ensuing sections of this paper will delve into the literature review, the methodology employed, and the resulting findings. Subsequently, a discussion will ensue, culminating in

the presentation of conclusions drawn from the study, as well as potential avenues for future research directions.

### Literature Review

Existing research in this field reveals prevalent study designs and foundational theories extensively employed in the literature. Li<sup>13</sup> conducted a comprehensive analysis, synthesizing 22 research articles, and found that the majority of studies favoured quantitative research designs. Notably, researchers commonly utilised Structural Equation Modeling (SEM) and Smart Partial Least Squares (Smart PLS) for data analysis. Moreover, the foundational hypothesis frequently explored by researchers was the Stimulus-Organism-Response (SOR) framework, with a specific focus on investigating purchase intention as a key variable in earlier publications.

Moving forward, future studies should explore the dynamic connections between hosts and their audiences to understand how followers influence customer behaviour. Interestingly, analogous themes have been investigated by other scholars as well. For instance, Park and Lin<sup>14</sup> delved into a related study centered on celebrity endorsements within the context of Chinese online celebrity live streaming purchases. They probed similar hypotheses, examining the impact of different match-ups on customer attitudes. Their findings indicated that product-source fit influenced the perceived attractiveness and legitimacy of the source, while product-content fit influenced utilitarian and hedonic attitudes towards the material. Furthermore, higher purchase intentions were observed when source credibility, hedonic attitude, and self-product fit were higher. Such research insights contribute to the growing body of knowledge in this domain and offer valuable avenues for further exploration.

The scope of research on live streaming extends beyond the facets previously discussed. For instance, Scheibe<sup>15</sup> conducted a systematic review exploring interpersonal relationships and social behaviours within live streaming services like Twitch, Chaturbate, YouNow, and Taobao Live. A comprehensive examination of literature metrics from 77 articles shed light on interactions on live streaming platforms, the social behaviour of hosts and viewers, and the influence of shopping relationships on live intent to act. Viewers of live streams experience a

unique affinity or "stickiness" towards the streamers and the services they offer. However, the interpersonal connections within live streaming services are not purely social, as they lack spatial proximity and physical contact. Nor can they be categorised as quasi-social, as they do exhibit elements of reciprocity and temporal proximity. Instead, these connections are classified as network social ties, lying somewhere between social and quasi-social relationships. This distinctive nature of live streaming sets it apart within the realm of social media and has led to its characterization as quasi-social in certain studies<sup>15</sup>. The exploration of these interpersonal dynamics and the classification of relationships in the context of live streaming contribute to a deeper understanding of the platform's unique position in the world of social media.

COVID-19 has had a huge worldwide influence, including in the field of live streaming commerce. Small and medium-sized businesses have encountered fresh challenges in the wake of this unprecedented pandemic, including fluctuations in market demand and accelerated internationalization efforts. In response to these circumstances, Qu<sup>16</sup> conducted a systematic evaluation, analysing 37 publications within this context. The study aimed to delineate specific remedies and strategies tailored to the realm of live streaming commerce. Through this analysis, operational recommendations were formulated to support and empower small and medium-sized businesses engaging in live streaming commerce, equipping them to navigate the evolving landscape with greater resilience.

Luo<sup>12</sup> conducted a bibliometric review of 39 studies and discovered that the majority of them fit into two primary theoretical frameworks. One is from a cultural and societal standpoint, focusing on environmental factors, while the other is from an individual one, investigating the antecedents or moderating variables of live streaming commerce. According to Fu<sup>17</sup>, previous research mostly investigate the influence of live streaming on consumers from the standpoint of the attributes of the hosts and live streaming characteristics. Discussions might be expanded to include new factors in the future. In the contemporary live e-commerce business, for example, there is a trend toward focused content and narrow product categories. Product categories can be utilised as moderating factors to investigate the impact of various types of online

celebrities on customer purchase intentions across product categories.

Hu and Min<sup>18</sup> discovered that spending on live broadcasting can dramatically improve sales and feedback. Live streaming has a beneficial impact on online sales of products shown both during and after the live stream. This implies that live streaming serves as more than just a mean of showcasing products for online retailers, but also as an effective strategy for cultivating customer relationships. Consequently, the integration of live broadcasting with e-commerce possesses the capacity to profoundly revolutionise the retail industry and reshape consumers' purchasing behaviours.

In the article by Ma<sup>19</sup>, a similar investigation to examine the influence of live broadcasting on consumer behaviour was conducted. Their research made theoretical advancements in the field of live streaming commerce by comparing the distinguishing features of live commerce with those of traditional e-commerce and social commerce, among other aspects. The present study examines the impact of interactivity, visuals, entertainment, and specialisation on consumers' purchase intention. The researchers also examined the impact of gender and platform disparities on the efficacy of live streaming as a marketing strategy. In general, this study contributes to the existing body of research on the psychological mechanisms underlying the live broadcast industry. Moreover, it offers valuable insights to marketers on the effective utilisation of live broadcasts as a mean to enhance consumer inclination towards making purchases.

Liu<sup>20</sup> conducted a thorough literature analysis on the effects of price discounts, streaming credibility, platform design, and interaction on consumers' buy intentions and behaviours in live streaming commerce. By addressing these crucial aspects, the article sheds light on four significant characteristics that profoundly influence consumers' purchasing decisions and behaviours in live e-commerce. The research underscores the pivotal role of price promotions, the credibility of the live streaming host, as well as the design and interactivity of the live e-commerce platform in shaping consumer preferences and actions.

## Methods

According to Turner-Stokes<sup>21</sup>, the WOS database is recognised as the most commonly acknowledged and

extensively utilised search engine for the study of scientific articles. This paper presents a systematic methodology utilised for the retrieval and compilation of extant literature pertaining to the domain of live streaming commerce. In the preliminary stage, a range of terms associated with live streaming commerce were gathered, resulting in the identification of specialised search terms: "live streaming commerce\*" or "live streaming shop\*" or "live streaming business\*". Following this, the acknowledgement of the recent rise of live streaming commerce as a significant field prompted the narrowing of the search parameters to include a span of five years, with a specific emphasis on scholarly publications published from 2019 to 2023 (see Table 1). This study is comprised of papers that met specific inclusion and exclusion criteria, which will be elaborated upon in the subsequent section. Papers were considered for inclusion if they had the specified keywords in their titles, abstracts, or keyword lists. The experiment was conducted utilising precise terminology and boolean operators. The search was conducted on June 30, 2023. VOSviewer (version 1.6.19) was used to analyse the Co-authorship, Keyword co-occurrence, Citation, and Co-citation.

A total of 315 research papers were retrieved from the Web of Science (WOS) database using the designated keywords. The results were filtered based on the following criteria (Refer Fig. 1):

**Results**

The study meticulously scrutinised a total of 315 papers, sourced from 192 journals. Notably, these publications received a combined total of 3146 citations, underscoring their significance and impact within the academic landscape. Impressively, the articles were affiliated with 488 distinct organizations, exemplifying the collaborative nature of research in this field. Additionally, the authors come from 54 different nations. This international representation reflects the widespread interest and engagement of scholars across the world in exploring and advancing knowledge on the topic under investigation (Table 2).

**Analysis of Publications**

Publications are frequently regarded as indicators of productivity and influence respectively<sup>22</sup>. Figure 2 depicts the evolution of the number of publications over the years. This graph encapsulates the production and influence of the streaming commerce research field. With live streaming commerce being a new topic at the time, there were only a few scholars working on

Table 1 — Overview of the data origin and selection process

Data source	Web of Science Core Collection
Searching period	2019-2023
Searching keywords	"Live streaming commerce*" or "Live streaming shop*" or "Live streaming business*"
Document types	Article, Early access, Review Article and Proceedings
Language	English
Sample size	315

Table 2 — Summary of general result

	Quantity
Publications	315
Citations	3146
Journal Titles	192
Institutions	488
Countries	54

Table 3 — Year of Publications

Years	Publications	% of 315
2019	22	6.984
2020	32	10.159
2021	70	22.222
2022	125	39.683
2023	66	20.952
Total	315	% of 315

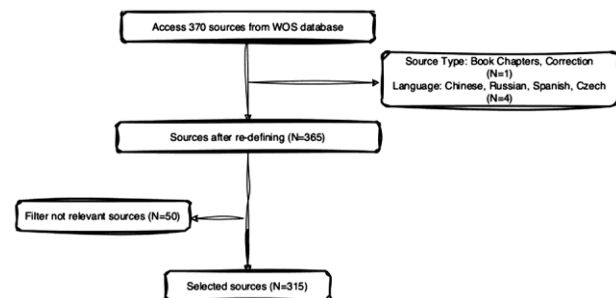


Fig. 1 — Flowchart of article selection process

this topic. COVID-19 progressively began to sweep the world at the end of 2019 which caused many researchers to conduct study on this topic in the coming year, and seven of the top 10 most cited articles were to be from 2020. On top of that, as a result of the influence of COVID-19, the publication pace of many journals decreased, so the number of publications in the same year was smaller, and it began to increase dramatically in 2021. It's also because many academics have recognised the research potential of this emerging topic. The number of papers in this sector would increase exponentially by 2022, and the number of publications as of June 30, 2023 is comparable to that of June 30, 2022. This means that, while COVID-19 came to an end, current researchers' study on live

streaming commerce has not (Table 3).

#### Analysis of Publication titles

Seven of the top 10 cited works on live streaming commerce were released in the year 2020. With 251

citations, Wongkitrungrueng and Assarut's<sup>23</sup> work came in first place (Table 4).

The major topic of this research is how live streaming helps social commerce vendors and customers build relationships of trust and

Table 4 — The top 10 papers with the most citations

No	Title	Topic	Authors	Publication Year	Total Citations
1	The role of live streaming in building consumer trust and engagement with social commerce sellers	Social commerce; Shopping value; Customer trust; Customer engagement; Live streaming	Wongkitrungrueng, Apiradee; Assarut, Nuttapol	2020	251
2	How live streaming influences purchase intentions in social commerce: An IT affordance perspective	IT affordance; Customer engagement; Live streaming; Purchase intention; Chinese social commerce	Sun, Yuan; Shao, Xiang; Li, Xiaotong; Guo, Yue; Nie, Kun	2019	226
3	The effects of match-ups on the consumer attitudes toward internet celebrities and their live streaming contents in the context of product endorsement	Internet celebrity; Live streaming; Match-up hypothesis; Social media; Wanghong	Park, Hyun Jung; Lin, Li Min	2020	145
4	The dynamic effect of interactivity on customer engagement behaviour through tie strength: Evidence from live streaming commerce platforms	Live streaming commerce; Interactivity; Tie strength; Customer engagement behaviour; Real-time online reviews	Kang, Kai; Lu, Jinxuan; Guo, Lingyun; Li, Wenlu	2021	129
5	Enhancing consumer engagement in e-commerce live streaming via relational bonds	E-commerce live streaming; Financial bonds; Social bonds; Structural bonds; Affective commitment; Consumer engagement	Hu, Mingyao; Chaudhry, Sohail S.	2020	116
6	What drives consumer shopping behaviour in live streaming commerce?	Live streaming commerce; Stimulus-Organism-Response; Para-social interaction; Arousal; Social sharing	Xu, Xiaoyu; Wu, Jen-Her; Li, Qi	2020	104
7	Factors influencing people's continuous watching intention and consumption intention in live streaming Evidence from China	Interactivity; Consumption intention; Stimuli; Live streaming; Social status display	Hou Fangfang; Guan Zhengzhi; Li Boying; Chong, Alain Yee Loong	2020	95
8	Live streaming commerce from the sellers' perspective: implications for online relationship marketing	Live streaming; online retailing; transactional-relational sales orientation; relationship marketing	Wongkitrungrueng, Apiradee; Dehouche, Nassim; Assarut, Nuttapol	2020	92
9	The impact of live video streaming on online purchase intention	Live video streaming; construal Level theory; Psychological distance; Perceived uncertainty; Online Purchase intention	Zhang, Min; Qin, Fang; Wang, G. Alan; Luo, Cheng	2020	81
10	Live streaming commerce and consumers' purchase intention: An uncertainty reduction perspective	Live streaming commerce; Signaling theory; Uncertainty; Trust; Purchase intention	Lu, Benjiang; Chen, Zhenjiao	2021	79

involvement. The study suggests a thorough approach to investigate the connection between live streaming participation, consumer trust, and perceived value. The article's main objective is to examine how live streaming affects consumer involvement and offers some helpful advice on how to increase consumer engagement with live streaming. The importance of this research for the development of social commerce and direct sales is also covered in the article.

The paper that ranks second in terms of citation count (226 citations) investigates live streaming's influence on consumer purchase intentions in the factors of social commerce in China, focusing on the perspective of IT affordance. The measurement of the model is conducted through the use of consumer polling on live streaming shopping platforms. Results found from this study show that the purchase intention of the customer through live streaming interaction may be influenced by visibility affordance, metavoicing affordance, and guided shopping affordance<sup>24</sup>. The paper further examines the importance of understanding the consequences of IT affordance on the subject of social commerce. It offers insights into how different IT affordances influence consumer engagement and purchase intention in live streaming.

The third-placed paper (145 citations) investigates how product endorsement interactions affect customer perceptions of online celebrities and the content of their live streams. It investigates the match-up theory and how consumer perceptions of online celebrities relate to it. The article also looks into the important elements that raise the intention to buy in the setting of online celebrity endorsement and the effects of product-source fit on trustworthiness and perceived source attractiveness<sup>14</sup>. The results of this study give academics and marketing managers new perspectives on the efficacy of online celebrity endorsements and the elements that affect consumers' views and desire to buy.

Kang<sup>25</sup> published a paper entitled "The dynamic effect of interactivity on customer engagement behaviour through tie strength: Evidence from live streaming commerce platforms" has been cited 129 times. The authors of this study have identified a non-linear correlation between client engagement behaviours and interactivity within the context of live streaming commerce platforms. Enhanced engagement between broadcasters and viewers, as well as among viewers themselves, fosters active

participation through acts such as providing positive feedback and engaging in virtual gifting. Customer avoidance is a phenomenon that arises when the degree of interaction goes beyond a specific threshold. The present findings serve to reconcile the contradictory results shown in previous studies investigating the influence of contact on consumer engagement. This paper emphasises the need of fostering client connectivity as a mean to enhance engagement in the realm of live streaming commerce. On the other hand, the scholarly article (Citation=116) contributes to the existing body of knowledge on affective commitment by differentiating between loyalty to the online marketplace and to the broadcaster. This study expands the field of literature in marketing by incorporating contrasting relational bonds as factors that influence consumer engagement, taking a relational prospect<sup>26</sup>. Xu<sup>1</sup> conducted a study (Citation=104) that sheds light on the factors impacting consumer behaviours in the context of live streaming commerce. These factors include hedonic consumption, impulsive purchase, and social sharing. This study examines the effect of streamer attractiveness, parasocial interaction, and information quality on individuals' behaviours. This study contributes to the existing literature by providing empirical evidence and valuable insights into the factors that impact consumer buying behaviour within the realm of live streaming commerce. The article rated eighth (Citation=95) examines the factors that influence the viewers' intentions to engage in live streaming activities. It provides recommendations for platforms and streamers to get ahead on their strategies and boost their value. The study conducted by Hou<sup>27</sup> aims to comprehensively elucidate the impact of many factors on viewer attitudes and behaviours on the subject of live streaming. To achieve this objective, the study integrates the elements of interaction, social status presentation, humour appeal, and sex appeal into a unified framework. The article ranked seventh (Citation=92) provides a comprehensive examination of live commerce, focusing on the perspective of sellers. This document provides an overview of the sales process, examines its impact on engagement metrics, and elucidates the strategies and methodologies employed by sales professionals to attract, captivate, and retain customers. In contrast to previous literature, this study represents a significant deviation from established findings<sup>28</sup>. The research conducted by Zhang<sup>29</sup> has

made significant contributions to the existing body of literature on real-time video streaming (Citation=81). The initial phase of the analysis examines the efficacy of live streaming as a marketing strategy and provides empirical evidence supporting its ability to confer a competitive advantage to e-retailers. Furthermore, this study plans to examine the 's influence on customer purchasing behaviour and enhance the theoretical underpinnings of live streaming in the context of e-commerce. A comprehensive analysis of the potential benefits associated with the use of live streaming in both business-to-business and business-to-consumer transactions is extensively discussed in the latter part of this article.

Based on the conclusion drawn in the aforementioned article (Citation=79), it can be observed that internet marketing has undergone a transformation to incorporate the practise of live streaming commerce. The study conceptualises two aspects, namely consumers' perceptions of physical traits and shared values among broadcasting enterprises, which have the potential to reduce product ambiguity and promote trust. This study provides simultaneous support for the two pathways connecting consumers' evaluations of physical attributes, shared values, and purchase intentions towards broadcasting firms, using a combination of structured survey data and unstructured interview data<sup>30</sup>.

#### Analysis of journals

A total of 315 articles were published in 192 journals, exploring various aspects of live streaming commerce-related research. In Table 5, the top 10 most read journals in this domain are highlighted. Notably, 105 articles, accounting for 33.33% of the total, were contributed by these leading publishers. FRONTIERS IN PSYCHOLOGY emerges as the most prominent journal, publishing a noteworthy 29 articles, constituting 9.21% of the total publications. In the second position, JOURNAL OF RETAILING AND CONSUMER SERVICES presents 16 articles, making up 5.08% of the collection. Meanwhile, ELECTRONIC COMMERCE RESEARCH and SUSTAINABILITY claim the third and fourth ranks, each hosting 12 articles, which represent 3.81% of the entire corpus. The ranking of these top journals underscores their significance in disseminating research on live streaming commerce, and their substantial contributions reflect the growing interest

Table 5 — Top 10 high-performing journals

No	Journal Titles	Publications
1	FRONTIERS IN PSYCHOLOGY	29
2	JOURNAL OF RETAILING AND CONSUMER SERVICES	16
3	ELECTRONIC COMMERCE RESEARCH	12
4	SUSTAINABILITY	12
5	ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS	9
6	ASIA PACIFIC JOURNAL OF MARKETING AND LOGISTICS	7
7	INTERNET RESEARCH	7
8	LECTURE NOTES IN COMPUTER SCIENCE	5
9	IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	4
10	INFORMATION MANAGEMENT	4

Table 6 — Top 10 high-performing Publishers

No	Publishers	Publications
1	Elsevier	64
2	Springer Nature	41
3	Emerald Publishing	33
4	IEEE	32
5	Frontiers Media Sa	30
6	Taylor & Francis	26
7	Mdpi	21
8	Assoc Computing Machinery	14
9	Sage	13
10	Wiley	7

and importance of this field in the academic landscape.

#### Analysis of Publishers

The top 10 high-performing publishers are shown in Table 6 based on the quantity of publications they have created. Elsevier leads the pack with an impressive 64 articles, constituting 20.31% of all publications analysed. Springer Nature secures the second spot with 41 articles, accounting for 13.02% of the total. Meanwhile, Emerald Publishing holds a strong third position, contributing 33 publications, making up 10.48% of the overall count. IEEE follows closely behind in fourth place, boasting 32 articles, equivalent to 10.16% of all publications. Rounding out the list, other notable publishers include Frontiers Media Sa with 30 publications, Taylor & Francis with 26, Mdpi with 21, Assoc Computing Machinery with 14, Sage with 13, and Wiley with 7 publications. Collectively, these findings highlight the dominance of Elsevier, Springer Nature, and Emerald Group Publishing as the top-performing publishers,

Table 7 — The most productive authors in live streaming commerce

No	Authors	Publications	Citations	Affiliation
1	Wang Lin	6	23	Northeastern University, China
2	Zhang Ji	6	13	Hangzhou Normal University
3	Kang Kyeong	4	130	University of Technology Sydney
4	Chen Hongquan	4	35	Chongqing University
5	Li Ji	4	31	Hebei University of Technology
6	Hu Yuhan	4	16	Xinxiang Medical University
7	Hua Ying	4	15	University of International Business & Economics
8	Assarut, Nuttapol	3	350	Chulalongkorn University
9	Nie Kun	3	260	Zhejiang Gongshang University
10	Sun Yuan	3	254	Zhejiang Gongshang University

Table 8 — Leading institutions

No	Institutions	Publications	Citations
1	CHINESE ACADEMY OF SCIENCES	10	79
2	UNIVERSITY OF SCIENCE TECHNOLOGY OF CHINA	8	69
3	ZHEJIANG GONGSHANG UNIVERSITY	7	272
4	UNIVERSITY OF INTERNATIONAL BUSINESS ECONOMICS	7	103
5	HARBIN INSTITUTE OF TECHNOLOGY	7	27
6	ALIBABA GROUP	7	8
7	SICHUAN UNIVERSITY	6	26
8	SHANDONG UNIVERSITY	6	24
9	SHANGHAI UNIVERSITY	6	23
10	RENMIN UNIVERSITY OF CHINA	6	21

underscoring their significant contributions in terms of the sheer volume of publications they produce in this particular domain.

#### Analysis of Authors

Among the top ten authors in the field of live streaming commerce, Wang Lin from Northeastern University, China, secures the first position, boasting an impressive record of six publications and 23 citations. Coming in second is Zhang Ji from Hangzhou Normal University, who also published six papers during this period, garnering 13 citations (Table 7).

Authors ranked 3rd to 7th all have four publications to their credit. Kang Kyeong from the University of Technology Sydney stands out with an impressive total of 130 citations, securing the 3rd position in terms of citation count. Following closely behind, Chen Hongquan from Chongqing University received 35 citations, while Li Ji from Hebei University of Technology received 31 citations. Hu Yuhan from Xinxiang Medical University received 16 citations, and Hua Ying from the University of International Business & Economics garnered 15 citations.

Notably, the last three authors, each with three papers published, have remarkably high citation

counts. Assarut Nuttapol from Chulalongkorn University has an outstanding total of 350 citations, while Nie Kun and Sun Yuan, both from Zhejiang Gongshang University, achieved impressive citation counts of 260 and 254, respectively.

An interesting trend emerges from this analysis, with seven out of the top ten authors hailing from China. This pattern correlates with the ranking of total publications, underscoring the robust interest and active involvement of Chinese researchers in the dynamic field of live streaming commerce. The significant presence of Chinese scholars further highlights the nation's strong dedication to advancing research and knowledge in this burgeoning domain.

Table 8 presents a noteworthy compilation of the top 10 major institutions, ranked based on the number of publications and citations they have earned in the domain of live streaming commerce research. Claiming the first position on this prestigious list is the Chinese Academy of Sciences, which boasts an impressive record of 10 publications and 79 citations. Following closely behind, the University of Science and Technology of China secures the second spot with 8 publications and 69 citations. Notably, Zhejiang Gongshang University stands out in the third place, contributing 7 publications that garnered a remarkable 272 citations. The University of

International Business Economics is also among the top-ranking institutions, with 7 publications to its credit, albeit with a slightly lower citation count of 103.

Additionally, several institutions are tied with 6 articles each, receiving citations ranging from 8 to 27. These institutions include Harbin Institute of Technology, Alibaba Group, Sichuan University, Shandong University, Shanghai University, and Renmin University of China. The findings underscore the dominant presence of leading institutions, with the Chinese Academy of Sciences, University of Science and Technology of China, and Zhejiang Gongshang University emerging as prominent contributors in terms of both publications and citations in the field of live streaming commerce research.

Table 9 demonstrates that China has produced the most research on live streaming commerce, with 191 papers and a total citation count of 2158. Therefore, this suggests that Chinese scholars have made substantial contributions in this subject. On the other hand, it indicates the highly developed character of China's live streaming commerce industry, as well as its acceptance by Chinese academics. In second place, the United States showcases 51 publications and 740 citations. Taiwan (China) secures the third spot, with 25 publications and 220 citations, reinforcing the region's active involvement in this field. Australia follows closely in fourth place, contributing 19 publications and garnering 108 citations. South Korea and England, each with fifteen publications, register 197 and 62 citations, respectively, demonstrating their noteworthy presence in the realm of live streaming commerce research. Canada ranks eighth, with 12 publications and 120 citations, highlighting its valuable contributions to the scholarly discourse in this domain. India takes the ninth position, contributing nine publications and earning 44 citations. Similarly, Malaysia and France each produce eight publications, accumulating 51 and 17 citations, respectively.

The prominence of China as the leading producer of live streaming commerce research is intricately connected to the country's long-standing development of live streaming platforms. Even before the onset of COVID-19, Chinese consumers exhibited a notable familiarity with live streaming commerce. However, in response to the pandemic, China implemented stringent measures, including restrictions on physical interactions, which inadvertently acted as a catalyst for the flourishing growth of live streaming

No	Countries/Regions	Publications	Citations
1	PEOPLE'S REPUBLIC OF CHINA	191	2158
2	USA	51	740
3	TAIWAN	25	220
4	AUSTRALIA	19	108
5	SOUTH KOREA	15	197
6	ENGLAND	15	62
7	CANADA	12	120
8	INDIA	9	44
9	MALAYSIA	8	51
10	FRANCE	8	17

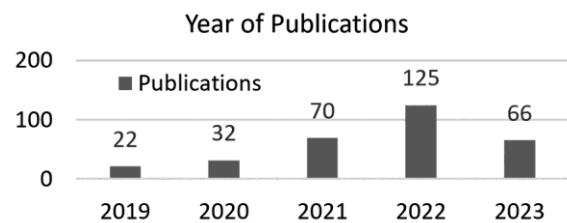


Fig. 2 — Publications produced over the years

commerce. This unprecedented situation created a conducive environment for the rapid expansion of live streaming commerce, transforming it into a thriving hub for both consumers and researchers alike.

### Research hotspot

In Figure 3, the size of each keyword corresponds to its frequency of occurrence, with larger keywords representing more common terms and smaller ones indicating less frequent usage. "impact" "behavior" and "purchase intention" emerge as the three most prominently appearing terms, all of which are closely related to customer behavior. On the other hand, keywords such as "social commerce" and "online" are specifically linked to the realm of the Internet. The prominence of customer behavior-related terms underscores the significance of understanding consumer preferences and decision-making processes in this domain. Meanwhile, the emphasis on "social commerce" and "online" reflects the integral role of the Internet and digital platforms in shaping the live streaming commerce ecosystem.

In Figure 4, a visual representation showcases the collaborative endeavors among countries in disseminating live streaming commerce publications. The size of each sphere serves as an indicator of the level of cooperation, with larger spheres representing heightened levels of collaboration, while smaller spheres indicate lower levels of collaboration. Notably, China, the United States, Taiwan (China),



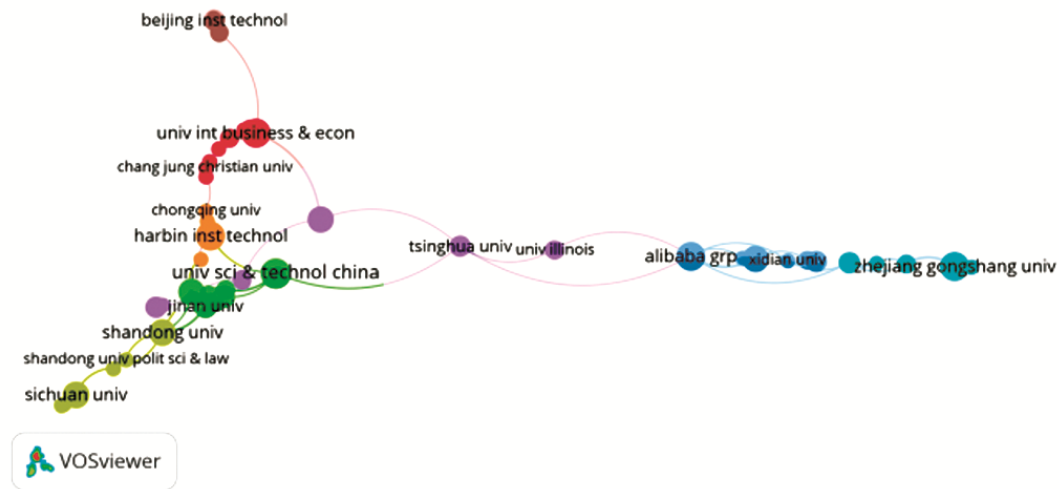


Fig. 5 — Collaboration between institutions

Technology of China, Harbin Institute of Technology, Shandong University, University of International Business and Economics, Zhejiang Gongshang University, and the Alibaba Group. This mutually beneficial partnership has contributed to the advancement of knowledge and understanding within the live streaming commerce landscape, with the active involvement of both academic and corporate entities enriching the research discourse and fostering innovation in this dynamic field.

### Conclusion

Bibliometrics usually aid in the detection of scientific activities in certain disciplines, such as publications, which can provide insight into academic discipline development trends. This article provides a literature review based on the WOS data. According to the data collected, 942 experts from 55 countries published 315 papers between 2019 and 2023 (as at June 30). The year with the most publications was 2022, with 125 articles (39.68%), and the number of publications from the time period of January to June 30<sup>th</sup> were similar in 2022 and 2023. The data collected were found to be indicating a general upward trend over time. Furthermore, as the number of articles increased, so did their citation counts, indicating that live streaming commerce has acquired scholarly interest as an emerging research topic. China had the most publications among these 55 countries, with 191 (60.64%), followed by the United States with 51 papers (16.19%) and Taiwan (China) with 25 papers (7.94%). Among these, the expansion of live streaming commerce in China is primarily responsible for China's cliff-like lead in the number of publications. Being the

world's largest manufacturing country, the unit price per client of product live broadcast sales is unbelievably low<sup>31</sup>. China has made it accessible to be able to receive items on the same day as the order is made, or within two or three days, thanks to an equally well-developed logistical infrastructure<sup>32</sup>. Everyone's psychological expectation when purchasing impulsive live broadcasted items is to receive the merchandise swiftly and be satisfied in a timely way. Due to these factors, impulsive consumption (purchasing a live broadcasted item) has become more popular<sup>13</sup>.

Most international partnerships took place within the aforementioned countries. At the same time, five of the top ten countries were in Asia, demonstrating both Asian scholars' passion to this topic and emphasizing Asia's comparatively well-developed live streaming business. From 2019 to 2023, the most popular keywords investigated in live streaming commerce research include "impact," "behavior," and "purchase intention", all of which are related to consumer behavior studies.

### Future Directions

Live streaming commerce is steadily emerging as a new business model, and research on it is very limited. Future studies can be conducted by potential researchers in the following areas:

- Future areas can include countries or regions other than Asia.

In the past, most studies on live-streaming e-commerce, particularly live streaming shopping, have focused on Asian countries, with a particular emphasis on China. Therefore, the applicability of these research findings may be restricted to the Asian context. Nevertheless, there is a distinct benefit to

conducting studies on European countries to address the research gap in this particular area. Given the growing popularity of live-streaming shopping worldwide, it is crucial to gain a deeper understanding of its dynamics and impact specifically in the European market. Through extensive research in European countries, valuable insights can be obtained regarding the distinct cultural, economic, and regulatory influences that impact the adoption and efficacy of live-streaming shopping in this particular region. These studies would not only enhance the academic understanding of live-streaming shopping, but also offer practical implications for businesses and policymakers in Europe. Thus, conducting further research on European countries would greatly contribute to our knowledge of live-streaming e-commerce on a global level.

- Using different theoretical frameworks

Utilizing different theoretical frameworks in the study of live-streaming commerce can provide new perspectives and enhance our understanding of this emerging business model. The existing SOR model has been widely used, but researchers can explore alternative frameworks like the CAB model, TAM, Social Exchange Theory, and Uses and Gratifications Theory to gain fresh insights into consumer behaviors and motivations in live-streaming commerce.

- To investigate the factors that influence customer purchase decisions from various viewpoints.

The existing research primarily focuses on merchant and consumer viewpoints, however, the importance of live streaming hosts in live streaming commerce should not be disregarded. Live streaming hosts play a crucial role in live streaming commerce. They establish trust, showcase and describe products, convince and sway viewers, foster social connections and engagement, and offer entertainment. Their significant role as key participants greatly impacts customer purchase decisions. Future research could focus on live streaming hosts as key participants.

- The Relationship Between COVID-19 and Live streaming Commerce

Although COVID-19 has now concluded, its inception corresponded with a period of tremendous progress for live streaming commerce<sup>33</sup>. As a result, it is vital to investigate their relationship and consider whether live streaming commerce will continue to grow steadily in the absence of COVID-19 or see a rapid decline.

- Add gamification elements

Scheibe<sup>15</sup> conducted a study which found that gamification aspects serve as a motivating factor for viewers, facilitating their sustained engagement with livestream content. At now, there is a dearth of scholarly study pertaining to the effects of gamification features on live streaming commerce. This knowledge gap presents an auspicious prospect for future researchers to delve into this area and conduct additional analysis.

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