

A Systematic Literature Review and Analysis of Live Streaming Commerce: Implications for Future

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Abstract

Purpose: Live streaming commerce as a shopping method in mobile devices continues to grow in recent years. Literature of live streaming commerce keeps accumulating while its growth. However, the research about live streaming is still highly inconsistent and fragmented. This study aimed to explore a comprehensive review that would help scholars and practitioners to identify consumer behaviors towards live streaming commerce.

Design/methodology/approach: The systematic reviews and meta-analysis could narrow down the search parameters of reporting items. Apply systematic literature review to analyze the content of retrieved articles to determine their research design, underpinning theory, research results, and publication time.

Findings: The most commonly adopted theory by previous studies was the SOR. The majority of studies selected quantitative as their research method. Most of them used Smart PLS for data analysis.

Research limitations/implications: This study was applied to the area of live streaming commerce. Specific limitations involved the availability of articles in subscribed databases, and this area is still developing, the number of available studies is limited.

Originality/value: The examination of timeline and composite literature led to constructing and classifying literature on live streaming commerce and assessing the current trend to facilitate later research.

Keywords: Live streaming commerce, live streaming, consumer behavior, PRISMA, Systematic literature review

Introduction

The rise of live streaming as novel mobile technology has dramatically revolutionized individuals' experiences with their tele-interaction devices. In general, live streaming platforms refer to the sites which can record and broadcast simultaneously in real-time and have been running on smart devices with a varied range of areas, such as video games, sports, social media, and so on. Live streaming has not only affected consumer behavior by providing them platforms for entertainment, opinion sharing, gaining information, and making purchase

decisions, they have also transformed the marketing strategies on promoting, advertising, and maintaining and establishing the relationship with existing customers and potential customers. Although there are numerous studies have already conducted on live streaming, such as online relationships with consumers (Wongkitrungrueng & Assarut, 2020), gift-giving in live video streaming (E. Yu, Jung, Kim, & Jung, 2018), and gratification in live streaming games (Sjöblom & Hamari, 2017), research about live streaming commerce is still limited (Wongkitrungrueng & Assarut, 2020). And the significance of live streaming commerce in making marketing strategies is obvious. Thus, synthesizing and summarizing the existing literature are needed. This study employs a detailed review of live streaming commerce literature using a concise categorization system to assist researchers and practitioners to obtain a better insight of live streaming commerce. This study aims to conduct, classify, highlight, and analyze the key findings of previous studies in the live streaming commerce literature. The main streams of studies with different sorts of methodologies and key findings are examined to analyze the significant areas where live streaming commerce has been used and studied, and what theoretical and practical implications have been drawn from those studies. This research contributes to the industry by enhancing the knowledge that practitioners need to take their initial steps or strengthen their resources to achieve strategic goals. Researchers can also recognize research gaps and place their future research.

Research questions of this study:

- What are the research design and theories applied by researchers?
- What are the key variables applied by previous studies?
- What are various future directions?

Literature Review

Live streaming platforms on mobile applications

In general, live streaming platforms on smart devices are mobile apps. Mobile apps refer to the application or software on a different smart device to perform specific tasks or functions for different users (Hsu & Lin, 2015). Different apps have different functions, such as contact, video or audio playing, office managing or weather reporting, and so on. Some researchers define live streaming as an Internet instrument that records and broadcasts in real-time (Chen & Lin, 2018). Live streaming platforms are regarded as mobile applications with functions of live video, audio, and interaction in the aspects of sports, news, business, entertainment and education, and so on. In this study, live streaming platforms refer to the apps which have embedded live streaming functions to perform commerce features. In order to achieve our goal, to provide a comprehensive and integrated perspective of the published marketing literature on all aspects of live streaming commerce to promote future research and practice.

Live streaming commerce and Consumer behavior

live streaming commerce as a novel type of shopping method has gained a lot of researchers' attention as its great business achievement. Cai et al. (2018) define live streaming commerce as e-commerce that integrates the function of the live stream and enables communication with consumers lively. Compared with the traditional online shopping of mobile commerce, live streaming commerce provides a vivid visual presentation of products or service information and live interaction between consumers and streamers (Wongkitrungrueng & Assarut, 2020). Thus, consumers could have a more real-time shopping experience through this.

In live streaming commerce, consumers can be more informed with their purchase decision as they could receive higher and richer product information rather than text and image information only (Wongkitrungrueng & Assarut, 2020). Moreover, streamers or sellers in live streaming

commerce may influence consumers' shopping behavior through their attractiveness, expertise, or trustworthiness (Ohanian, 1991). Therefore, consumers would perceive different values from their watching experience, and which may influence their further shopping behavior (Cai et al., 2018). And some other researchers have identified various factors or features in live streaming commerce which would influence consumers' purchase behavior, such as IT factors, and psychological factors, and so on. Therefore, this study aims to show effort and find out answers to above-stated research questions.

Methods

Sweet and Moynihan (2007) defined systematic review as "to provide a systematic, transparent means for gathering, synthesizing and appraising the findings of studies on a particular topic or question. The goal is to narrow down the bias associated with single studies and nonsystematic reviews". The data extract process follows the method of the Preferred Reporting Items for Systematic reviews and Meta-analyses (PRISMA) (Moher, Liberati, Tetzlaff, & Altman, 2009). PRISMA aims to report a transparent, objective, and explicit systematic report. It is firstly designed for the research of healthcare. Later on, it has been largely selected in the area of business and marketing (Siddaway, Wood, & Hedges, 2019; Huurne, Ronteltap, Corten, & Buskens, 2017). Furthermore, the PRISMA statement suggests the article selection in four steps, which are identification, screening, eligibility, and inclusion. Identification as the first step of PRISMA requires what, how, and where to find the critical issue. And research questions offered the foundation of identification. To fulfill this research requirement and find relevant literature, this study developed numerous key terms (see Table 1). The online search has been conducted in September 2021 by using Google scholar. Google scholar is a commonly used Internet-based academic search engine which includes more than 2 million records of both published and reviewing academic articles. All records need to be identified and screened to exclude unrelated or duplicated items (see Figure 1). In order not to miss any important studies, this study has identified as many records as possible. And this process is regarded as the sensitivity of screening (Siddaway et al., 2019).

Since the initial screening of data, to assess the remaining full-text articles for eligibility is required. The assessment was followed the eligibility criteria. And the inclusion or exclusion criteria were based on the objectives of this study. The review process aimed to identify key variables in live streaming commerce which may affect consumers' purchase behavior. All searches spanned from the year 2016 to 2021 (so far). The reason this study chooses 2016 as the starting point is that the live streaming function has been embedded into Android and iOS applications in the March of 2015 (Price, 2015). Article selection range involved journal articles, review papers, research reports, published in English only.

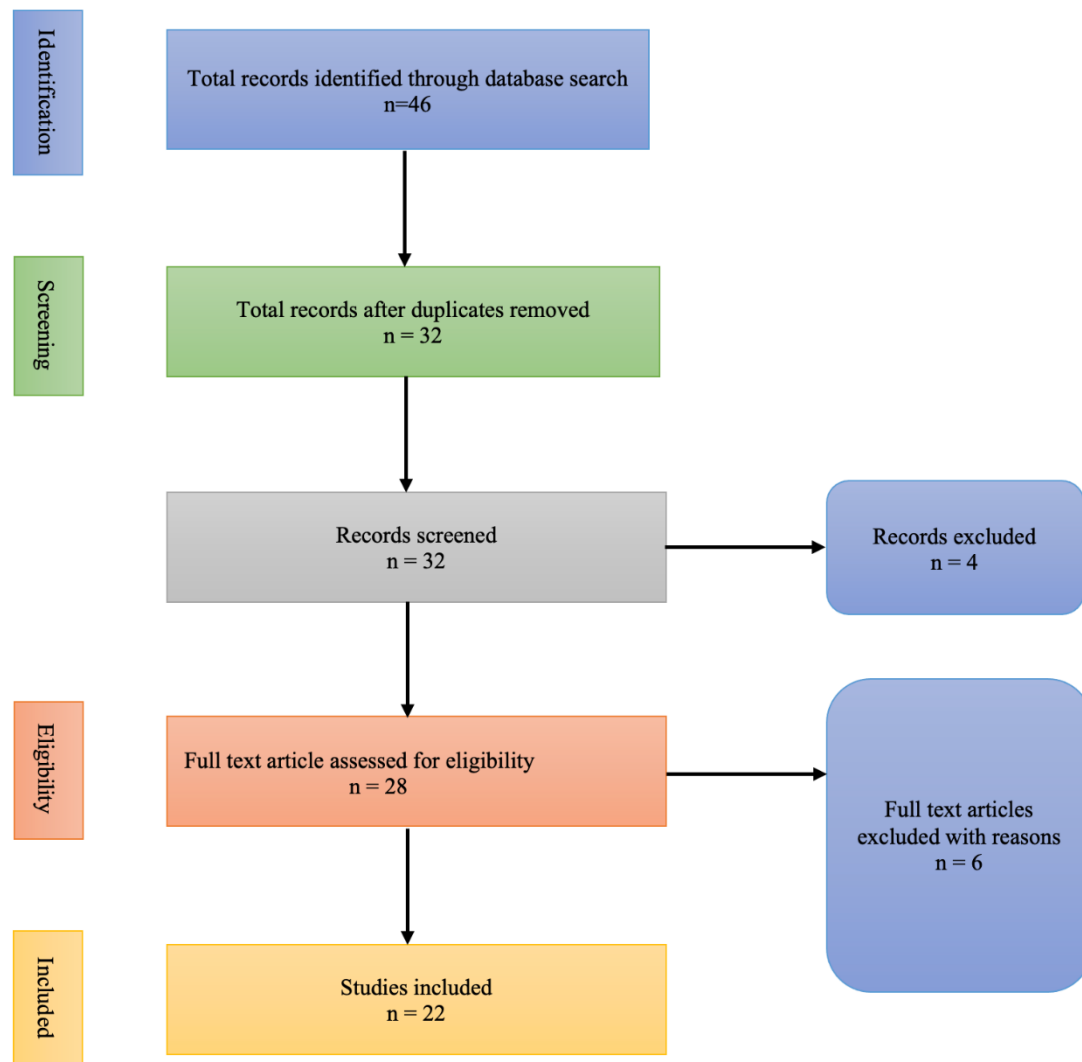


Figure 1 Steps in the research article process

Finally, in the phrase of data extraction, this study adopted Mendeley and Microsoft Excel applications. The two software generated a form that aimed to extract and arrange quality information. This study involved different columns in data extraction to record information, which is: research article ID, authors, place of study, research design, data collection methods, key variable names.

Table 1 Key terms used in the search strategy

Blocks	Keywords for search
Primary variable	“consumer behavior”
And	
Context	“live streaming commerce” or “live streaming shopping”

Findings

After the search strategy, there are 22 full-text records, the number is very small as this area is relatively new and still developing. Duplication is the main reason for removing studies. Also, four studies are removed as they were published in the Korean language. The synthesis resulted in several findings, which are publication year, underpinning theories, elements of research design, and future research directions.

Progression of studies

Studies included the time range from 2016 to 2021, and most publications can be viewed that (see Figure 2) were published in recent 2 years. Also, there is an increasing trend that can be witnessed throughout the period. This study's selection progress started in the year 2016, but since live streaming commerce is a relatively novel and upcoming research area, therefore the number of studies only started to rise in the last few years to finally reach the highest number of studies in 2021.

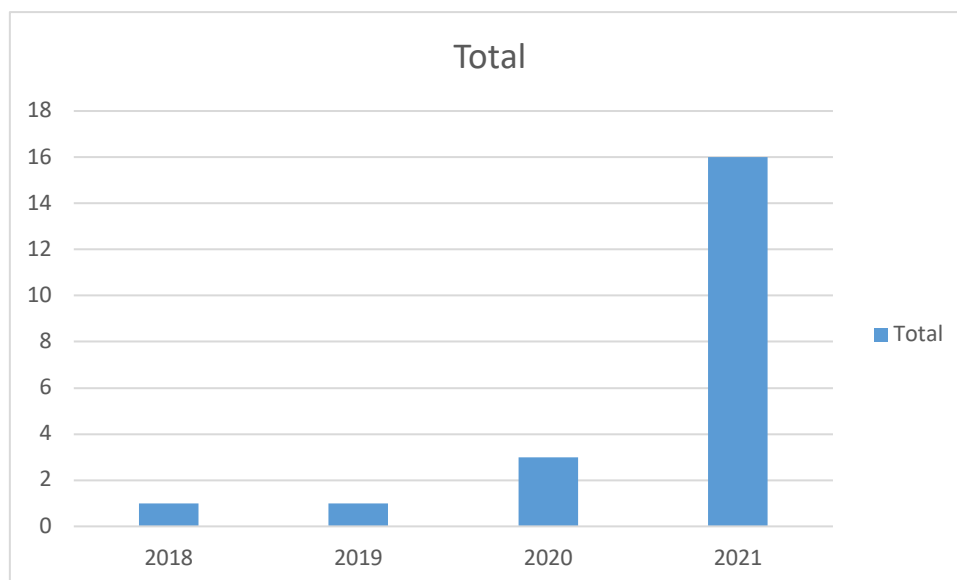


Figure 2 Selected articles publication year.

Research design

Among the selected studies, the quantitative research design was found most popular among researchers. Some of them were using a mixed-method (Kang et al., 2021; Luo et al., 2021; Wongkitrungrueng, Dehouche, & Assarut, 2020). Most studies used surveys, and the rest of the researchers adopted online data, such as reviews, as their collections. Data analysis is a significant process to the results and conclusions. Among those studies, structural equation modeling (SEM) was applied by most studies, and smart PLS, smart PLS with SPSS, or SPSS with AMOS were the common software combinations used in those SEM studies. For other studies involving big data, Python is a popular software used for data analysis.

Theories and frameworks

For the underpinning theories applied in the live streaming commerce area, there was a large proportion of researchers who considered the Stimulus Organism Response (SOR) model. The

SOR model was originally proposed by Woodworth (1929), which was derived from the traditional stimulus-response theory. And later, the organism's element has been added in between by Jacoby (2002). This whole set of mechanisms aims to identify human behaviors which impacted by environmental stimulus cognitively (Eroglu, Machleit, & Davis, 2003; Ning Shen & Khalifa, 2012; Shah, Yan, Shah, & Ali, 2020). Therefore, the SOR provides a comprehensive framework for studying consumers' online shopping behavior. The other theories applied in the studies reviewed are as shown in Figure 3.

Key variables

Among the selected studies, purchase intention (Guo, Zhang, & Valliappan, 2021; Ko & Chen, 2020; Lakhan et al., 2021; Lu & Chen, 2021; SONG & LIU, 2021; Yu & Zheng, 2021) was the most popular dependent variable. And followed by impulsive purchase (Ming et al., 2021; Wu, Chiu, & Chen, 2020; Xu, Wu, & Li, 2020). Other research questions were about customer engagement (Guo et al., 2021; Kang et al., 2021; Shah et al., 2020) consumers' continuance usage intention in live streaming (Zhang et al., 2021), sales performance (Luo et al., 2021) and repurchase intention (Li et al., 2021). Those variables were found that closely associated with live streaming commerce.

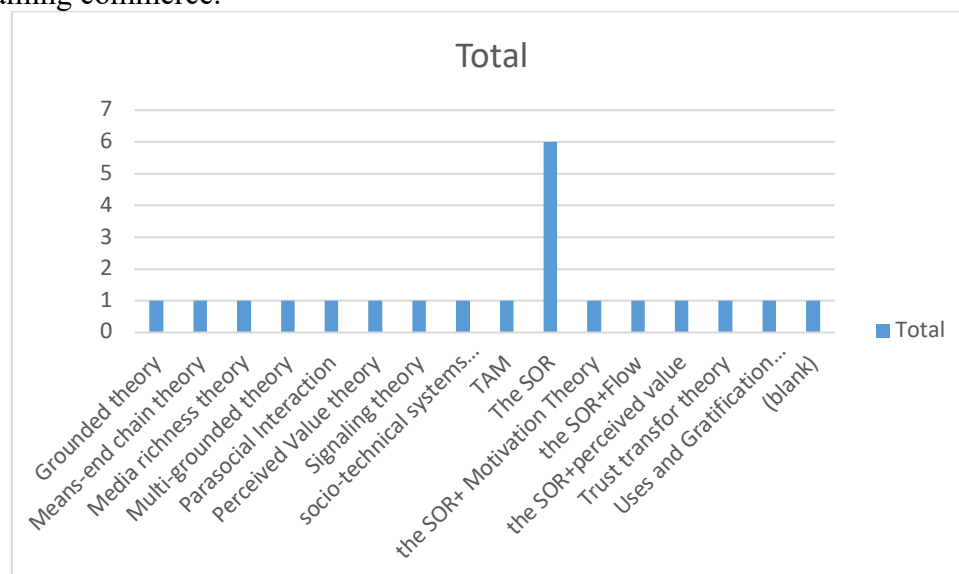


Figure 3 Underpinning theories adopted by selected articles.

Discussion and Conclusion

This study targeted at addressing the three research questions. One was to discover the general research design and underpinning theories in the area of live streaming commerce. The second was to identify the key variables applied by prior studies. And the last was to and describe the future research areas. The above-stated objectives were successfully executed by systematically reviewing and synthesizing 22 research articles. The data analysis exhibited many interesting findings. Most studies chose a quantitative research design. A certain number of researchers chose SEM and Smart PLS for data analysis. The maximum number of papers was published in 2021. Most researchers adopted the SOR as an underpinning theory. The most common variable in past research articles was purchase intention.

This study also found many potential research routes for future researchers. One of the future research avenues was to study live streaming commerce in other nations and regions to have a more comprehensive understanding of this topic. Also, the analysis and test of streamers should not be neglected, because they carry a significant role in the process of live stream.

In summary, the finding of this review provides an understanding into the context of live streaming commerce. This study provides a detailed overview of this given area. Also, this review can guide future researchers to not only interpret the area of live streaming commerce but also to further research endeavors in the given area.

Limitations and Suggestions for Future Research

For the articles reviewed, some research gaps were identified. An obvious observation was that most of the research was conducted in China. This is because live streaming commerce has been witnessing exponential growth among consumers in the last few years. Nevertheless, with so many studies done on China, the generalizability of the findings may be limited. Future studies could consider other nations and regions, or cross-national comparison studies could be conducted to create a more comprehensive understanding of consumers' behavior towards live streaming commerce and produce more broadly applicable results. Also, the selection of constructs and proposed relationships did not present the uniqueness of live streaming commerce. Future studies could adopt different theoretical perspectives and identify other determinants, moderators, and control variables to provide a more comprehensive understanding of live streaming commerce. Moreover, streamers are an important part of live streaming commerce, and streamers can attract followers to their live stream sessions and influence the purchase decisions of the audiences in their live stream sessions. However, the research about streamers is neglected in prior studies. Future studies can test the relationship between streamers and their audiences, to find out the relationship between followership and consumer behavior.

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