

THE INFLUENCE OF LIVE STREAMING ON VIRTUAL EXPERIENTIAL MARKETING MEDIATED BY FOMO: A BIBLIOMETRIC ANALYSIS

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Abstract: This study proposes a model that examines the influence of live streaming on Fear of Missing Out (FOMO) in Virtual Experiential Marketing (VEM). The focus of this study is to highlight the dimensions involved in each variable that emerged from previous studies and find out the indicators related to the dimensions of live streaming, FOMO, and VEM. This study uses the Systematic Literature Review (SLR) method, which is then tested using Publish or Perish and Vosviewer software to explore new indicators of the dimension. In addition, this study uses Scopus, ScienceDirect, Emerald Insight, and other relevant journal databases to enhance the comprehensiveness of the literature review. The study discusses the findings of the similarities and differences of the dimensions that shaped the study's variables as well as the indicators to measure the dimensions of the variables. Therefore, this study proposes that the research model that exposes the influence of live streaming through FOMO on VEM can be applied by combining dimensions in the literature review and indicators from the results of the bibliometric map. The indicators for the above variables are: first, live-streaming is e-commerce, performance, and perspective; second, FOMO is a mental health issue, social media fatigue, and addiction. Lastly, VEM is behavior, brand experience, and experiential marketing purchase intentions. This research contributes to a better understanding of the influence of live-streaming-induced FOMO on VEM. This study applies marketing theory and consumer behavior in formulating managerial recommendations supported by empirical evidence.

Keywords: live streaming, FOMO, VEM

INTRODUCTION

Live streaming research is increasingly in the spotlight due to its widespread use across various digital platforms. This research is associated with multiple variables, such as those conducted by Lin and Lee (2024, gift giving, social presence), Chen et al. (2024, task-oriented interaction), Li et al. (2024, streamer performance), Hua et al. (2024, online experience, hospitality, and tourism), Zhang et al. (2023, consumer purchasing behavior), Yan et al. (2023, e-commerce), Zhang et al. (2023, purchase intention), Li

et al. (2021, user stickiness), Huo et al. (2021, customer trust), Xu et al. (2020, consumer shopping behavior). Research on fear of missing out (FOMO) is also interesting to study, which is associated with various variables, such as those conducted by Tan and Huan (2024, online games), Yu et al. (2024, social media), Schillebeeckx et al. (2024, ICO), Groenestein et al. (2024, social media use), Dinh et al. (2023, purchase intention), Jabeen et al. (2023, social media fatigue), Tandon et al. (2022, social media), Bloemen and Coninck (2020, family characteristics),

Franchina et al. (2018, social media use), Przybylski et al. (2013, motivational, emotional, and behavioral).

Furthermore, research on Virtual Experiential Marketing (VEM) also provides interesting perspectives linked to various variables as studied by Ambarwati and Sari (2024, Islamic branding), Davey et al. (2024, brand immersion), Huang et al. (2024, marketing technology), Khoirunissa and Rufaidah (2024, brand trust, brand loyalty), Yersuren and Ozel (2023, travel intention), Fathurrahman and Rufaidah (2023, VEM scale measurement), Colakoglu et al. (2023, tourists' VR), Rodrigues et al. (2023, virtual tourism), An et al. (2021, destination marketing), Levy and Guterman (2021, manufacturer brand), Wu et al. (2021, experiential relationship marketing), and Jung and Dieck (2017, visitor experience).

Referring to the above research, it is still rare to conduct research that identifies the relationship between live streaming, FOMO, and virtual experiential marketing, especially exploring how live streaming influences FOMO in VEM. First, is live streaming a factor in FOMO? Second, is there a discernible influence of live streaming on VEM? Third, the role of FOMO on VEM must be identified. Fourth, determine the impact of live-streaming-induced FOMO on VEM. Fifth, is there a model that fits the influence of live streaming through FOMO on VEM? The study of live streaming, FOMO, and VEM creates a better understanding of the conditions of the influence of live streaming through FOMO on VEM.

By considering the virtual consumer experience and combining marketing theory and consumer behavior, this study provides valuable insights into the process that shapes an interesting live stream mediated by FOMO on VEM. This study proposes testing FOMO as a moderator to determine its role in the virtual marketing experience for consumers in live streaming. This study will apply marketing theory and consumer behavior

in compiling managerial recommendations supported by empirical evidence. The recommendations aim to enable marketers to adjust their approach to provide a valuable experience for consumers. In addition, the recommendations will benefit the community.

Research on live streaming in the context of virtual or online consumer marketing experiences remains incomplete. This study seeks to deepen understanding of the influence of live streaming-induced FOMO on VEM, which can be correlated with the sale of cosmetics, electronics, fashion, and other products of significant value to consumers. Based on a theory, this study posits that FOMO serves as a moderator that positively influences consumer behavior, especially when purchasing products through live streaming. This study addresses the gap in the current literature on live streaming, FOMO, and VEM in marketing research. This study also examined how the relationship between these variables affects the consumer experience in live-streaming transactions, which have become increasingly popular lately. Given the background and motivation of the research above, the main objective of this study is to understand how live streaming through FOMO affects the virtual marketing experience for consumers. Furthermore, it will analyze the direct and indirect impacts of live streaming, FOMO, and VEM. To that end, this study proposes the following propositions:

1. Proposition 1: There is an influence of live streaming on FOMO.

The role of live streaming in influencing consumer purchase intentions due to the fear of missing out (FOMO) has been widely studied (Kao & Huang, 2024). The results of that study show that FOMO plays an essential role in live-streaming shopping. The viewers who fear missing out on information and products sold in live streaming

experience increased attention to live streaming and increased desire to buy. These findings clarify that the emotional impact of FOMO can drive consumer purchase intentions and actions, especially in situations of product scarcity.

2. Proposition 2: There is an effect of live streaming on VEM.

The role of live streaming in shaping consumers' experiential value, and the mechanisms and boundary conditions underlying this effect, have been widely studied (Wu et al., 2023). The results of that study indicate that virtual live streaming increases experiential value in consumers' social presence and mediates the relationship between socialization and experiential value.

3. Proposition 3: There is an influence of FOMO on VEM.

After searching for research on the influence of FOMO on VEM, none explicitly addresses its impact on virtual experiential marketing. Related research by Aitamurto et al. (2021) examines cinematic virtual reality, where users' focus on one part of a 360-degree scene may cause them to miss other events, triggering FOMO. However, the study finds that both FOMO and JOMO can be integral to immersive viewing experiences, suggesting that FOMO is not necessarily a negative factor as previously assumed.

4. Proposition 4: There is an influence of live streaming through FOMO on VEM.

No research has been found that discusses the influence of live streaming-induced FOMO on VEM, even though a search was conducted on the topic; therefore, this research will be a novelty.

This study uses a systematic literature review (SLR) method, utilizing the tools Publish or Perish, VOSviewer, and Mendeley to support a comprehensive article analysis. This article introduces

the relationship between live streaming, FOMO, and VEM. The literature review section explores the definition of live streaming, FOMO, and VEM from the perspective of various researchers. The method includes an explanation of the systematic literature review approach and the process of collecting data from Scopus, Emerald Insight, ScienceDirect, Sage Journals, and Springer. The results and discussion include various findings from bibliometric analysis and the identification of research trends. The final section, namely the conclusion, summarizes the research results and implications for future research. The study contributes by categorizing the three variables examined using a systematic bibliometric analysis. This bibliometric analysis is the first to provide comprehensive insight into the current state of research on FOMO as a moderating variable influencing VEM through live streaming.

CONCEPTUAL FRAMEWORK

A literature review on live streaming shows the use of different terms with the same meaning, namely live streaming, live streaming e-commerce, e-commerce live streaming, and live streaming commerce. Live streaming is evident in several concepts of the definition of the terms above. Live streaming in e-commerce refers to shopping activities, chats, and other content broadcast live through an interactive platform (Lin & Lee, 2024). Live streaming e-commerce is an online shopping platform that enables interaction between broadcasters and consumers (Chen et al., 2024). Live shopping combines live streaming with e-commerce, allowing users to interact in real time (Li et al., 2024). Live streaming is a media format that records, broadcasts, and allows continuous, real-time interaction (Hua et al., 2023). Live streaming is a form of e-commerce that involves real-time

social interaction between broadcasters and viewers (Zheng et al., 2023). Live streaming e-commerce is a new influencer advertising method that enables direct customer interaction (Yan et al., 2023). Live streaming is a great platform to provide comprehensive information to followers (Zhang et al., 2024). Live streaming platforms allow streamers to broadcast live in real time, including product appearances and shopping guides (Li et al., 2021). Live streaming commerce is a new form of social commerce when companies integrate with broadcasters, community members, and consumers in a live chat room (Guo et al., 2021). Live streaming commerce refers to the delivery of e-commerce transactions and activities through a live streaming platform (Xu et al., 2020). Based on the definition of several previous authors, it can be concluded that there is a similarity of opinion from Lin & Lee (2024), Chen et al. (2024), Li et al. (2024), Hua et al. (2023), Zheng et al. (2023), Li et al. (2021), and Xu et al. (2020), who define live streaming as a platform that can be used for transactions and allows interaction between broadcasters and consumers.

A literature review on FOMO overTime shows that the term is used consistently based on previous research. However, there are differences and similarities in researchers' understanding of the concept. FOMO is characterized by the desire to stay connected with what others are doing (Tan & Chiu, 2024). FOMO refers to the fear of missing out on enjoyable experiences, along with compulsive behaviors, to maintain social relationships (H. Yu et al., 2024). FOMO can be considered as an individualdisposition of the emergence of feelings that others may have rewarding experiences while the individual is not in them (Groenestein et al., 2024), FOMO is a trait that focuses on a particular community (Schillebeeckx et al., 2024), FOMO is a complex phenomenon that arises from psychological problems that are then detrimental and cause fatigue (Jabeen et al., 2023), FOMO is an adverse

psychological condition that reflects a person regarding the loss of social media updates (Tandon et al., 2022), FOMO is a form of consumer motivation (Dinh et al., 2023), FOMO is a predictor and trait of internet addiction (Bloemen & De Coninck, 2020), Fear of Missing Out refers to the emergence of feelings of anxiety at the possibility of missing out on rewarding experiences that others have (Franchina et al., 2018). FOMO is defined as a concern that others may have rewarding experiences while one does not (Przybylski et al., 2013). Based on the explanation of the definition according to several previous authors, there are similarities in opinion, namely Yu et al. (2024), Groenestein et al. (2024), Tandon et al. (2022), Franchina et al. (2018), and Przybylski et al. (2013), who define FOMO as a psychological condition when someone feels anxious about missing out on rewarding experiences that others have while he does not get them.

Virtual experiential marketing combines virtual and interactive elements to provide consumers with an immersive experience (Khoirunissa & Rufaidah, 2024). Experiential marketing is an effort made to package products so that they can offer emotional experiences for consumers (Ambarwati & Sari, 2024). Experiential marketing is a form of marketing that aims to attract consumers by using branded experiences (Davey et al., 2024). Marketing technology is the foundation for creating digital experiences and interactive marketing to provide consumers with high experiential value (Huang & Chung, 2024). Experiential relationship marketing is built on satisfaction, trust, value, and commitment.From experience (Wu et al., 2020), experiential marketing is a technique in which companies enhance their marketing and promotions with sensory appeal to intensify consumer experiences (Levy & Gendel Guterman, 2021).The virtual world can be considered a medium that provides users with the means to produce specific outputs (Fathurrahman & Rufaidah, 2023).

Virtual reality is a holistic experience that provides a realistic, three-dimensional environment and allows interaction with real or unreal simulation content (Yersüren & Özel, 2024). The concept of virtual reality is a method that can be used in various fields such as education, health, architecture, marketing, and others. (Çolakoğlu et al., 2024), Virtual reality is an interactive technology that provides an immersive experience, allowing users to explore the virtual world by responding to movement, audio, and visual cues (An et al., 2021).

Virtual reality is a fully immersive experience in which the digital world is created to offer a different experience (Jung & Dieck, 2017). Based on the explanation of the definition, there are similarities in opinion from Ambarwati & Sari (2024), Wu et al. (2020), and Levy & Gendel Guterman (2021), who conclude that experiential marketing is one of the company's efforts to increase marketing by offering an exciting experience for consumers. Yersüren & Özel (2024) and An et al. (2021) state that virtual reality is a realistic technology in a three-dimensional environment that provides users with an immersive experience for exploring the virtual world. Based on the conceptual development of the three variables identified, this study proposes a research model (Figure 1) that explores the role of live-streaming-mediated FOMO in VEM.

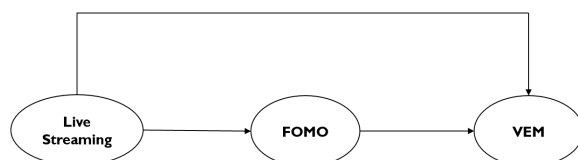


Figure 1. Research Model

RESEARCH METHODOLOGY

This study uses a Systematic Literature Review (SLR) based on the PRISMA protocol. The review process involved identifying, screening, and analyzing academic articles published from 2013 to 2024. Searches were conducted in Scopus, ScienceDirect, Emerald Insight, Springer, and Google Scholar using the following Boolean keyword combinations:

- ("live streaming" AND "e-commerce")
- ("FOMO" OR "Fear of Missing Out" AND "social media")
- ("Virtual Experiential Marketing" OR "VEM" AND "consumer experience")

Inclusion criteria:

- Articles in English
- Peer-reviewed journal articles
- Published between 2013 and 2024
- Relevant to one or more core variables

Exclusion criteria:

- Non-English or non-peer-reviewed sources
- Conference abstracts without full-text
- Duplicate records

The article screening followed four PRISMA-based stages:

- Identification: 210 records were retrieved through database searches.
- Screening: After removing duplicates, 180 articles remained.
- Eligibility: Abstracts and full texts were assessed based on criteria.
- Included: 89 studies were selected for final analysis

The selected articles were analyzed using a dual approach:

- Bibliometric analysis using VOSviewer for co-word mapping and cluster visualization
- Thematic synthesis to categorize recurring indicators and dimensions for Live Streaming, FOMO, and VEM.
- This process ensured transparency, minimized bias, and strengthened the reproducibility of the study's findings.

Bibliometric Analysis Interpretation (Enhanced Explanation)

The VOSviewer co-word visualizations revealed research clusters that support the proposed model. For live streaming, clusters emphasized "interaction," "e-commerce," and "purchase intention," indicating research focus on social commerce. In the FOMO map, keywords such as "addiction," "anxiety," and

"mental health" show strong links to behavioral outcomes and digital fatigue. For VEM, keywords like "brand experience," "experiential value," and "customer engagement" highlight marketing goals in immersive settings.

These findings validate the relevance of using bibliometric analysis to extract meaningful dimensions for conceptual model development. The maps do not merely reflect terminology usage but help define the evolving thematic focus within the literature.

RESULT AND DISCUSSION

Result

1. Variable Dimensions from Previous Studies

The variables in this study, namely live streaming, FOMO, and VEM, each have formative dimensions carried out by previous researchers, as shown in Table 1.

Table 1. Dimensions from Previous Studies (a)

Authors	Dimensions
Live Streaming	
Lin & Lee (2024)	awareness, cognitive social presence, affective social presence, attitude toward the live streamer, gift-giving intention
Chen et al. (2024)	task-oriented interaction, relationship-oriented interaction, virtual touch, cognitive trust, emotional trust, sense of power, purchase decision
Li et al. (2024)	personal charisma, professionalism, interactivity, entertainment, emotional trust, cognitive trust, enjoyment, concentration, impulsive purchase behavior
Zheng et al. (2023)	influence of anchors, sales promotion of anchors, interactive entertainment of anchors, environmental problem perception, green consumption awareness, purchasing behavior
Xu et al. (2020)	streamer attractiveness, parasocial interaction, information quality, cognitive assimilation, arousal, hedonic consumption, impulsive consumption, social sharing
Hua et al. (2023)	Interaction, engagement
Li et al. (2021)	interaction, identification, synchronicity, vicarious expression, emotional attachment to streamer, platform attachment, visit duration, user retention
Guo et al. (2021)	trust in community members, trust in broadcasters, trust in products, swift guanxi, customer engagement.
Yan et al. (2023)	perceived usefulness, urge to buy impulsively, perceived entertainment, trust, attitude toward influencer ads, celebrity effect

Authors	Dimensions
Zhang et al. (2023)	informativeness, wishful identification, para-social relationship, inspiration, consumers' attitudes towards influencers, consumers' attitudes towards products, consumers' in-store purchase intentions

Table 1. Dimensions from Previous Studies (b)

Authors	Dimensions
FOMO	
Tan & Chiu (2024)	FOMO (losing-out aspect, interactive aspect), game motivation (immersion, social interaction, achievement), variety preference, value (price, quality, playing games, enjoyment, social)
Przybylski et al. (2013)	fear of missing out, individual differences, social media engagement
Yu et al. (2024)	social media use, sleep, mental health
Franchina et al. (2018)	fear-of-missing-out, problematic social media use, phubbing
Dinh et al. (2023)	exposure to influencers, desire to mimic, FOMO, materialism, purchase intention
Bloemen & De Coninck (2020)	Social media use, family structure, relationship quality, parenting style
Groenestein et al. (2024)	social media use, fear of missing out, deficits in psychological need, general mood, life satisfaction
Schillebeeckx et al. (2024)	personal connection, stakeholder recognition, project development stage, open-source culture, financial stewardship
Jabeen et al. (2023)	time cost, anxiety, fear of missing out, narcissistic admiration, narcissistic rivalry, social comparison, self-disclosure, social media fatigue
Tandon et al. (2022)	FOMO, phubbing, work incivility (relational outcome), workplace exhaustion (psychological outcome), creativity (psychological outcome)
VEM	
Ambarwati & Sari (2024)	Sense, think, relate, act, feel, origin, compliance, customer, recommendation, positive stories, recognition of needs, information search, alternative evaluation process, the decision to study, behavior after college
An et al. (2021)	sense, quality of information, telepresence, focused attention, temporal distortion, satisfaction, visit intention

Table 1. Dimensions from Previous Studies (c)

Authors	Dimensions
Wu et al. (2020)	access to fertility care, professional skills, patient orientation, physical comfort, information, experiential satisfaction, experiential value, experiential trust, experiential commitment
Levy & Gendel Guterman (2021)	manufacturer's brand image, retailer's store image, experiential emotion, tendency to socialize, extrinsic cues
Davey et al. (2024)	multi-dimensional, multi-touchpoint, subjective, extraordinary, immersive
Yersüren & Özel (2024)	aesthetics, education, entertainment, escapism, technology acceptance model perceived ease of use, perceived usefulness, attitude, destination visit intention, virtual reality travel intention, perceived risk

keyword of VEM using Scopus in Publish or Perish of VEM are rare. So, it explores the keyword of VEM using Google Scholar to find the articles in Publish or Perish. The results of the bibliometric map were obtained from Google Scholar using Publish or Perish, which was then analyzed using VOSviewer as follows:

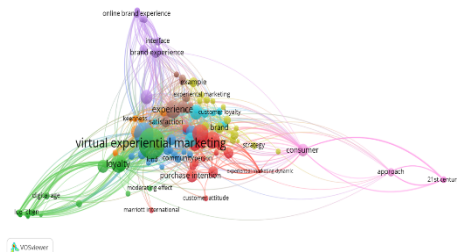


Figure 5 Co-word map network visualization of VEM

3. Result of Bibliometric Map Research on Live Streaming, FOMO, Experiential Marketing, and VEM

The co-word map network visualization results related to live streaming show 11 clusters. There are 7 clusters associated with FOMO. Related to experiential marketing is divided into 10 clusters, and related to virtual experiential marketing is divided into 9 clusters as follows:

Table 2. Result of VOSviewer (a)

Cluster	Live Streaming	FOMO	Experiential Marketing	Virtual Experiential Marketing (VEM)
Cluster 1	case, live multi-medium, live peer, low, multipath, network, network coding, peer, performance, pull, scheduling, video	addiction, covid, effect, mediating role, moderating role, need, person, social, systematic review, use	antecedent, augmented reality, brand equity, case, co-creation, consideration, consumer behavior, dimension, event, experience, experiential value, food, nature, outcome, role, tourist experience	activity, behavior, business, consumption, covid, customer attitude, experiential marketing, experiential marketing dynamic, experiential marketing purchase intentions relationship, influence, intention, multiple mediator analysis, pandemic, paper, person, purchase intention, role, smartphone, study
Cluster 2	evidence, factor, game, live, motivation, platform, play, shopping, twitch, virtual gifting	adolescent, link, loneliness, predictor, problematic social medium, relationship, self-esteem, smartphone addiction, social media addiction	analysis, customer experience, empirical study, engagement, ICT (Information and Communication Technology), kano model, market, museum, perspective, service, social interaction, social medium, tourism destination, use	digital age, examination, implementing experiential marketing, loyalty, moderating effect, online customer intention, online purchase intention, RKH (Real-Time Knowledge Hub), sustainable customer relationship, virtual experiential marketing, virtual experiential marketing element

Table 2. Result of VOSviewer (b)

Cluster	Live Streaming	FOMO	Experiential Marketing	Virtual Experiential Marketing (VEM)
Cluster 3	analysis, consumer, e-commerce, flow, influence, intention, interaction, internet, perspective, streamer	development, reliability, scale, social media engagement, social media use, technology, time, university student, validity, wellbeing	application, behavioral intention, consumer, consumer experience, critical review, experiential marketing strategy, factor, POP (Point of Purchase), research, sense, sensory brand experience	behavioral intention, case study, community, customer value, destination marketing, dimension, effect, flow, interaction, kind, pleasure, research, user
Cluster 4	application, challenge, challenges, covid, large scale, live streamer, measurement study, popularity, practice, Twitch TV	association, comparison, Facebook, FOMO, impact, Instagram, social media fatigue, social medium, work	art, brand, brand love, business, creation, exploratory study, importance, marketing, practice, strategy	application, brand, case, concept, context, customer, example, experiential marketing, importance, museum, social medium, strategy, virtual experiential marketing activity, virtual world
Cluster 5	design, incentive, IoT, live video, P2P (Peer-to-Peer), system, UAV (Unmanned Aerial Vehicle)	anxiety, depression, fear, influence, mediator, problematic smartphone use, problematic smartphone use severity, relation	brand loyalty, case study, customer satisfaction, effect, experiential marketing, image, loyalty, loyalty intention, service innovation,	brand experience, brand loyalty, contrast, emotion, interface, online brand experience, replacement, sense, web
Cluster 6	augmented reality, behavior, impact, live stream, periscope, study, systematic review, video game	college student, mental health role, stress	age, brand attachment, brand trust, emotion, impact, moderating role, relationship, sensory experience, study	advertising, customer experience, customer loyalty, development, experiential value, focus, impact, marketing, marketing, recent year, relation, service

Table 2. Result of VOSviewer (c)

Cluster	Live Streaming	FOMO	Experiential Marketing	Virtual Experiential Marketing (VEM)
Cluster 7	content, context, effect, evaluation, HTTP, service, user	individual difference, missing, personality trait, problematic internet use	brand attitude, brand experience, determinant, influence, purchase intention, travel agency, trust, value, wine tourism	community relationship, competition, customer browse, element, internet, keenness, online retailer, pervasiveness, relationship, remote area, VEM
Cluster 8	commerce, emotion, engagement, gender, mediating role, role		comparison, customer, luxury hotel, memorable experience, tourist	experience, game, information, perspective, phygital marketing, satisfaction, scope, term, theory, virtual environment, virtual reality
Cluster 9	dash reference player, determinant, improving bitrate adaptation, social presence, theory		mediating role, mouth, willingness, word	21st century, approach, brand manager, classic manager, classic marketing discipline, consumer, experiential marketing, hotel operation, marketing academic, marketing manager.
Cluster 10	cloud, gift, live streaming, viewer		consumption experience, future	
Cluster 11	customer engagement, affordance perspective, purchase intention, social commerce			

4. Co Word Map Density Visualization

Co-word map density visualization refers to items marked based on visibility (Ashfan et al., 2024). A co-word map density visualization for Live Streaming is shown in Figure 6, which illustrates the research's ongoing development by showing that the most used keywords are perspective and platform.

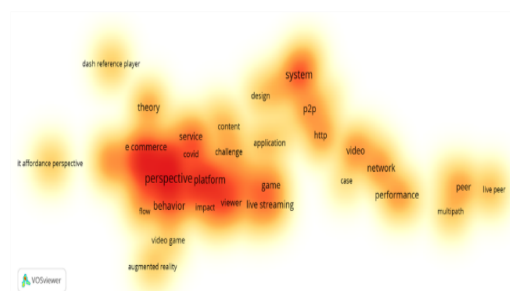


Figure 6. Co-word map density visualization of live streaming

Figure 7 shows a co-word map density visualization on FOMO, showing that fear is the most commonly used keyword in the study.

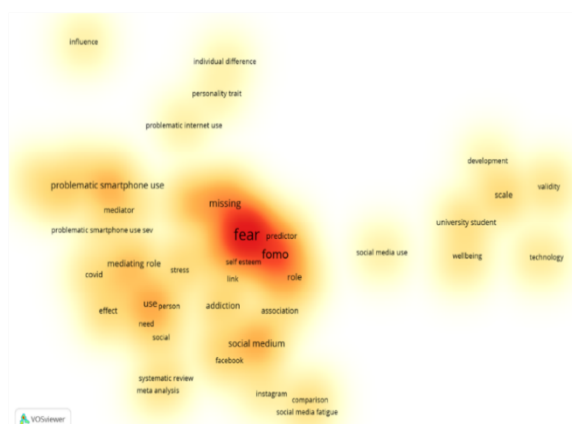


Figure 7. Co-ward map density visualization of FOMO

The co-word map density visualization for Experiential Marketing is shown in Figure 8. The keyword most frequently used in the study is 'experience'.

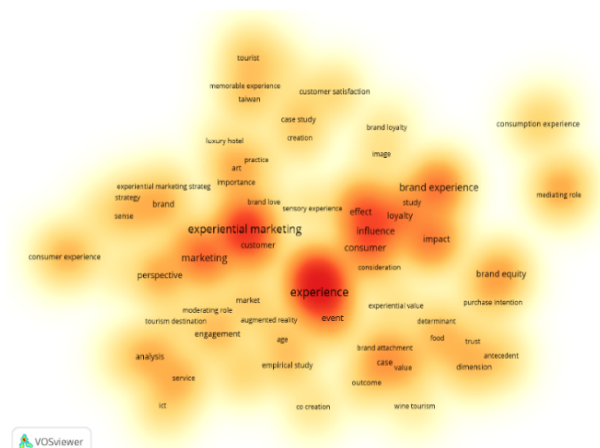


Figure 8. Co-ward map density visualization of experiential marketing

Co-word map density visualization on Virtual Experiential Marketing shows that the keywords frequently used in the study are virtual experiential marketing, as shown in Figure 9.



Figure 9. Co-ward map density visualization of VEM

Discussion

The results of a bibliometric map analysis in VOSviewer show that live streaming, FOMO, and virtual experiential marketing can be used to research various products, such as cosmetics, fashion, and electronic devices. This finding shows that these indicators can be added as a contribution to research that has never been done before. The results of the co-word map network visualization on VOSviewer related to live streaming are divided into 11 clusters, showing that the results of the analysis can be used to conduct research related to live streaming commerce with variables that are widely used, namely consumer, shopping, e-commerce, intention, live streamer, commerce, customer, purchase intention, and social commerce. These results can also be used for research on consumer behavior, using widely used variables: motivation, intention, interaction, perspective, behavior, affect, and social presence.

Furthermore, the results of the co-Word map network visualizations in VOSviewer related to FOMO are divided into 7 clusters, which can be used for research proposals on mental health using widely used variables, namely addiction, loneliness, self-esteem, anxiety, depression, fear, mental health role, stress, and missing. Other research can be done related to the impact of social media with widely used variables, namely problematic social media, social media use, social media fatigue, and social media

engagement. Researchers who discuss platforms like Facebook, Instagram, TikTok, and other platforms can also use this research. In addition, the co-word map results from FOMO are suitable if you want to research smartphones, including problematic smartphone use variables and problematic smartphone use severity.

Then, the results of the co-word map network visualization on VOSviewer with experiential marketing are divided into 9 clusters that can be used as research proposals related to consumer experience in marketing with widely used variables, namely experiential value, customer experience, behavioral intention, loyalty, experiential marketing strategy, brand love, brand loyalty, customer satisfaction, loyalty intention, brand attitude, and brand experience. Then, the results of the co-word map network visualization on VOSviewer related to VEM are divided into 9 clusters that can be proposed for research related to virtual marketing experiences, which are currently widely carried out in the e-commerce industry with widely used variables, namely business, consumption, customer attitude, experiential marketing, experiential marketing dynamic, experiential marketing purchase intentions, online customer intention, customer value, brand loyalty, customer loyalty, online retailer, and satisfaction. Research that measures the role of live Streaming on FOMO can be measured by referring to the propositions that have been prepared. This research can be carried out empirically with target respondents. These, namely consumers, use various products ranging from fashion, makeup, and electronic devices to other daily equipment, as with previous research conducted by Kao & Huang (2024). Furthermore, research that measures the role of live streaming on VEM is measured by referring to the propositions that have been prepared, and research on the relationship between the two variables has been conducted by

Wu et al. (2023). Research on the relationship between two variables can be carried out if you want to research the effect of sales through live streaming on the marketing experience felt by consumers virtually, where this has been widely done lately, for example, shopping via live streaming on TikTok. Then, research measuring the role of FOMO in VEM has not been conducted by many previous researchers. In the propositions prepared, previous researchers Aitamurto et al. (2021) discuss the relationship between video viewing experience and FOMO.

Then, a research study measuring the influence of live streaming-induced FOMO on virtual experiential marketing (VEM) can be conducted empirically with target consumers who prefer e-commerce shopping. One example of research that can be proposed regarding the relationship among the three variables is that consumers who intend to purchase goods through live streaming are influenced by FOMO (fear of missing out) on currently popular products, which can ultimately affect the virtual marketing experience for consumers. These research variables can involve various dimensions in the VOSviewer co-word map, such as in live streaming, namely e-commerce, performance, and perspective. Multiple dimensions of FOMO, namely mental health role, social media fatigue, and addiction. These are behavior, brand experience, and experiential marketing purchase intentions in VEM.

CONCLUSION

Conclusion

This study's findings reveal similarities and differences among indicators of live streaming, FOMO, and VEM. For this reason, this research model can be continued by combining dimensions from the literature review and adding new dimensions and indicators from the results of the bibliometric map using

Publish or Perish and VOSviewer. The research model proposed in this article can be continued by referring to the research results discussed. The findings of this study are the existence of new dimensions and indicators to measure the research variables of live streaming, FOMO, and VEM. The new dimensions and indicators to measure live streaming are e-commerce, performance, and perspective. E-commerce includes indicators of streamer performance and the number of products sold. Performance includes indicators of streamer performance, network stability, and live-streaming video quality. Perspective contains indicators of viewer engagement and viewer trust level in the streamer.

The new dimensions and indicators of FOMO are mental health roles, social media fatigue, and addiction. The mental health role consists of an indicator of stress level resulting from the lag consumers feel. Social media fatigue is an indicator of how long people spend using social media. Addiction consists of an indicator of the level of addiction to using smartphones and the level of addiction to using social media. VEM's latest dimensions and indicators are behavior, brand experience, and experiential marketing purchase intentions. Behavior is an indicator of the amount of consumption and the level of customer loyalty. Brand experience is an indicator of the level of product repurchase and the value customers feel. Experiential marketing purchase intentions serve as an indicator of the experiential value customers feel.

Implications

assist marketers in developing effective marketing strategies for the current digital era. The correlation between live streaming, FOMO, and Virtual Experiential Marketing (VEM) is crucial for marketers to capitalize on social media platforms such as TikTok

or Instagram. Marketers can adeptly promote their products by closely monitoring consumer behavior and the marketing experience. When using live streaming for sales, marketers must present their products in a way that is irresistible, taking full advantage of society's prevalent Fear of Missing Out (FOMO). This approach will enable marketers to deliver an unparalleled virtual experiential marketing experience to their customers.

Limitations

The limitation of this study is the selection of articles that focus only on English-language articles, so the material from each variable may not be explored as widely. Then, this study limits itself to discussing only the relationship among three variables: live streaming, FOMO, and Virtual Experiential Marketing (VEM). This study focuses on the latest studies because the live-streaming phenomenon has emerged only recently. The marketing method using live streaming is the same as marketing in the 1990s via television with access via telephone. Some features are similar, such as accurate product information and attractive discount bonuses, but the difference is that in the 1990s it used television, while now it uses smartphones.

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