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The Adoption of Stimulus-Organism-Response (SOR) Model in the Social Commerce Literature

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Abstract

Social commerce business is built on interpersonal networks and uses Internet social technologies to conduct sales of products and services, whereby it has been seen as a powerful visible symbol of the new e-commerce era (Wang *et al.*, 2022). Users have witnessed the growth of various methods of exchanging products and services that deviate from traditional e-commerce conventions due to interconnected social and semantic webs (Beheshti *et al.*, 2022). There are increasing attention on social commerce in the academic world, and multiple underpinning theories and models have been adopted to support the past research works. Among, the Stimulus-Organism-Response (SOR) Model has started to receive greater attention of the academic researchers. This study discusses the adoption of SOR Model in the past social commerce literature in the field of marketing research.

Keywords: Social Commerce, Stimulus-Organism-Response (SOR) Model, Live Streaming, Marketing Research

Introduction

The Internet has grown increasingly inseparable from everyone's life in the twenty-first century, thanks to ongoing developments and advancements in networks and information technology (IT) (Wongmonta, 2021). The popularity of the internet has resulted in significant growth in the number of Internet users in China (Liu *et al.*, 2021). Over recent years, a growing trend has been identified in the Asian market related to live streaming in social commerce. Due to the rapid rise of electronic commerce (e-commerce), social commerce has become an increasingly frequently investigated paradigm Akram *et al* (2021) which indicates social commerce of great research value. Live streaming has gained popularity since 2011 (Hilvert-Bruce *et al.*, 2018). According to the Interactive Advertising Bureau (IAB), 47% of live streaming viewers worldwide spent more time watching live streaming than in 2017 (Emarketer, 2018). This study provides a review of the literature on the adoption of Stimulus-Organism-Response (SOR) Model in the social commerce research.

The fast growth of web-based technology has substantially improved social media concepts and techniques, resulting in unique strategies that influence social commerce operations (Huang & Benyoucef, 2015). Live streaming shopping has gained popularity among Chinese customers as a new type of social commerce, which has piqued the interest of academicians and scholars. This study will contribute to the marketing and theoretical

implications concerning live streaming commerce and the ramifications for live streaming commerce practitioners at a managerial level, thereby providing a better understanding of social commerce.

Review of Literature

Social Commerce

Social commerce is a social media-mediated business combining online and offline contexts (Zhang & Wang, 2012). Social commerce, by its nature, maybe used to build a company's image, changing commodities and markets into community-centric and user-oriented marketplaces (Wigand *et al.*, 2008). Major e-commerce companies like Amazon, Groupon, and eBay have found immediate success using social commerce as a mechanism for interacting with their customers (Wang & Zhang, 2012). In recent years, transactions over the internet have evolved from electronic commerce (e-commerce) to social commerce (s-commerce), which places a greater emphasis on interpersonal communication and social connection (First *et al.*, 2021). Social media is viewed as the foundation of social commerce, and social media plays a significant role in the acceptance of social commerce (Wang *et al.*, 2022).

Lin *et al* (2019) stated that in order for companies to attain profitable branding values in today's digital business environment, they must develop better understanding of the social commerce phenomenon. Hussin and Busalim (2016) mentioned that the concept of social commerce is that social media enhances vendors' commercial transactions by cultivating greater relationships with consumers, improving the quality of those connections, driving customer loyalty and boosting revenue. Social commerce is based on the idea of sharing information, mostly through reviews, ratings, and feedback, which customers can use to make purchasing decisions and companies can use to improve their products and/or services (Attar *et al.*, 2022). According to the previous research, the advent of social commerce represents end-users' collective negotiating power, as the Internet has shifted power of negotiation from vendors to consumers.

In addition, Molinillo *et al* (2020) also emphasizes that consumer perceptions regarding overall service quality have become more significant than vendors' management capability. Chen *et al* (2017) stated that sellers from a country that is developing may employ social commerce platforms to connect with a greater number of potential customers in local as well as global markets, operating in a targeted market with less cost compared to traditional channels. Shirazi *et al.* found that social commerce information sharing improves consumers' impressions of social commerce platforms' familiarity, perceived usability, and perceived value.

Stimulus-Organism-Response (SOR) Model

Customers' impulsive behaviour is the topic of the SOR (Stimulus-Organism-Response) Model. The model defines "stimulus" as an external force that arouses the interior state of an organism (Pandita *et al.*, 2021). In the early 20th century, Woodworth was the first to offer this idea based on the traditional model: stimulus-response in the year of 1929 (Laesser *et al.*, 2017). This notion was then expanded by Mehrabian and Russell in the year of 1974 (Ahn *et al.*, 2022). With the continuous development of psychology, Neo-behaviorism has gradually

become the mainstream theory, which believes that the S-R model ignores inner activities to explain human behavior is incomplete and unscientific (Moore, 1987).

Thereby, Belk (1975) has modified the traditional S-R model by adding a variable "Organism" in the middle, and taken the individual's physiological and psychological activities as the mediating variables of stimulation and response. Internal processes and structures intervening between external stimuli and the ultimate actions, reactions, or responses emitted are referred to as organisms. Perceptual, physiological, emotional, and mental activities make up the intermediate processes and structures (Bagozzi, 1986). The cognitive process that begins as soon as a person receives marketing stimuli/cues is referred to as organism (O). In this stage, the person analyses external/internal cues and employs perceptual, physiological, and cognitive capacities (Bagozzi, 1986).

Since it was applied to marketing research in 1975, the S-O-R model has been regarded as a general model for consumer purchasing decisions. This model describes the purchase decision as a process of "stimulus-individual mental activity-response", indicating that consumers' purchase behavior is caused by external stimuli, and changes in individual's mental activities. Thereby, generate motivation and driven by motivation, make purchasing decisions and real-time purchasing behaviors.

Thereafter, Bitner (1992) took the service environment as the background and explained the internal psychological activities of consumers; external stimuli will cause consumers to have cognitive, emotional and even physical reactions where these reactions comprehensively affect the actual behavior of consumers. The concept developed a method to explain the behaviours of humans, examining how environmental stimuli affect people's cognitive and affective states (Bakker *et al.*, 2014). According to Ming *et al.* (2021), the layout and target design which customer engagement is focused on the help in increasing brand quality and consumers' awareness of the items that is offered by the customers.

The Adoption of SOR Model in Social Commerce Research

For the first time, Eroglu *et al* (2001) used the SOR model in online buying, combining it with consumer personality traits to investigate the influence of the online store environment on consumer behaviour. As Eroglu *et al* (2001) states, Outward stimuli (such as advertising, word-of-mouth, etc.) induce psychological changes (namely attitude, belief, cognition, etc.) in consumers, which subsequently alter customers' internal or external reactions (such as satisfaction, purchase intention, and purchase behaviour). Chen & Wu (2016) took website design (including website background colour, picture size and quality, picture design and other sub-variables) as stimulus variables to study their impact on users' purchase behaviour through users' emotional response (including pleasure and arousal).

Ettis (2017) adopted the SOR Model as the framework, using cold and warm background colours of e-commerce websites as the stimulus variables and individual pleasure and concentration as the internal emotional response of customers. He studied the impact on the number of pages visited by customers, visit duration, purchase intention and repeated visit behaviour. Previous studies by Liu *et al* (2019) used the SOR Model to investigate the purchasing behaviour of social business websites by using stimulus variables which includes perceived persuasiveness and informativeness, internal state variables, such as trust in other website members and trust on the website itself; and mediator variables, namely social

presence to examine the final behavioural response of users. The recent study from Liu *et al.* (2023) who used the Stimulus-Organism-Response (SOR) theory to examine the impact of MSC content's usefulness, engagement, enjoyment, and authenticity on mobile social commerce.

Based on the SOR Model, Gong *et al.* (2019) constructed a moderated mediation model to investigate the influence of atmosphere cues of live streaming scenes on consumers' impulse consumption intentions, as well as the mechanism of flow experience and the Spirit of Compromise. SOR Model has been used in several studies to assess online consumer intention behaviours in e-commerce, for example online users' behaviour Luqman *et al.* (2017), online repurchase Zhu *et al.* (2019); purchase Lu *et al.* (2018) and impulsive buying intentions Gong *et al.* (2019); impulse buying behaviour in live stream commerce (Chan *et al.*, 2022).

Previous research in live streaming commerce have shown that real-time interactions between live streamers and viewers in live streams provide viewers with a sense of presence, influencing potential customers' behaviours and attitudes (Chan *et al.*, 2018; Ming *et al.*, 2021; Chan *et al.*, 2022; Wang *et al.*, 2022). As a result, being present in live streaming commerce is a powerful stimulant for influencing consumer behaviour. In the paradigm, "organism" refers to the cognitive and effective intermediary states that mediate the stimulus's impact on individuals' responses (Xu *et al.*, 2020).

Conclusion

As has been previously reported in the literature, many scholars have taken the environment of online shopping and the characteristics of information systems as the stimulus variables based on the SOR Model to explore the ultimate behavioural intention of users through the internal cognitive state of users. Therefore, the SOR framework model provides a suitable research perspective and a solid theoretical basis for this study. Since e-commerce changes the way products are displayed to the users and consumers, the stimulus presented in the external environment will affect the cognitive information process of the target community, which will ultimately influence their behavioral responses to firms' marketing strategies.

In sum, the SOR Model has been receiving attention from the academic researchers in the marketing research. The SOR Model provides a strong foundation to the academic researchers in examining the impact of the marketing stimulus have on the internal cognitive and behavioural reaction of target respondents. Besides, SOR Model also supported the industry players in predicting the potential outcomes of their designed marketing campaigns on the target consumers. With that in mind, future researchers are encouraged to further exploring and examining the impact of SOR Model in social commerce from various perspective and contextual designs.

According to the research results, this research is helpful for future study in the social economy, especially in the fast-growing live streaming economy. These studies take the SOR theory as the theoretical support, which will better explain consumers' consumer behaviour and driving force in the social economy. This research can not only provide some guidance and reference for future scholars to study related fields, but also allow businesses and consumers to have a deeper understanding of consumer behaviour in social commerce .

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References

- Ahn, S. Y., & Heo, W. (2022). The Impact of COVID-19 on Food Consumption Patterns: An Application of SOR Framework. *Consumer Interests Annual*, 68.
- Akram, U., Ming, J., Jianqiu, Z., Bilal, M., & Fan, M. (2021). How Social Presence Influences Impulse Buying Behavior in Live Streaming Commerce? The Role of SOR Theory. *International Journal of Web Information Systems*, 17(4), 300-320.
- Attar, R. W., Almusharraf, A., Alfawaz, A., & Hajli, N. (2022). New Trends in E-Commerce Research: Linking Social Commerce and Sharing Commerce: A Systematic Literature Review. *Sustainability*, 14(23), 16024.
- Bagozzi, R. P. (1986). Principles Of Marketing Management. *Chicago: Science Research Associates*
- Bakker, I., Van der Voordt, T., Vink, P., & De Boon, J. (2014). Pleasure, Arousal, Dominance: Mehrabian and Russell Revisited. *Current Psychology*, 33(3), 405-421.
- Beheshti, A., Ghodrathnama, S., Elahi, M., & Farhood, H. (2022). *Social Data Analytics*. CRC Press.
- Belk, R. W. (1975). Situational Variables and Consumer Behavior. *Journal of Consumer research*, 2(3), 157-164.
- Bitner, M. J. (1992). Servicescapes: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing*, 56(2), 57-71.
- Chan, L. Q., Kong, Y. M., Ong, Z. Y., Toh, J. X., Von, Y. H., Lee, V. H., Loh, X. M., & Tan, G. W. H. (2022). Driving Factors Towards Live-Stream Shopping in Malaysia. *Proceedings of International Conference on Emerging Technologies and Intelligent Systems ICETIS 2021* 1: 580–591.
- Chen A. Lu Y. Wang B. (2017). Customers' Purchase Decision Making Process in Social Commerce: a Social Learning Perspective. *International Journal of Information Management*, 37(6), 627–638.
- Chen, Y. F., & Wu, C. J. (2016). Influence of website design on consumer emotion and purchase intention in travel websites. *International Journal of Technology and Human Interaction (IJTHI)*, 12(4), 15-29.
- Chong, A. Y. L., Lacka, E., Boying, L., & Chan, H. K. (2018). The Role of Social Media in Enhancing Guanxi And Perceived Effectiveness of E-Commerce Institutional Mechanisms in Online Marketplace. *Information & Management*, 55(5), 621-632.
- EMarketer. (2018). Retail E-Commerce Sales Worldwide from 2014 to 2021.
- Eroglu, S. A., Machleit, K. A., & Davis, L. M. (2001). Atmospheric qualities of online retailing: A conceptual model and implications. *Journal of Business research*, 54(2), 177-184.
- Ettis, S. A. (2017). Examining the relationships between online store atmospheric color, flow experience and consumer behavior. *Journal of Retailing and Consumer Services*, 37, 43-55.
- First, J. M., Shin, H., Ranjit, Y. S., & Houston, J. B. (2021). COVID-19 stress and depression: Examining social media, traditional media, and interpersonal communication. *Journal of Loss and Trauma*, 26(2), 101-115.
- Hilvert-Bruce, Z., Neill, J. T., Sjoblom, M., & Hamari, J. (2018). Social Motivations of Live-

- Streaming Viewer Engagement on Twitch. *Computers in Human Behavior*, 84, 58-67.
- Huang, Z. H., & Benyoucef, M. (2015). User preferences of social features on social commerce websites: An empirical study. *Technological Forecasting and Social Change*, 95, 57–72.
- Laesser, C., Beritelli, P., & Luo, J. (2017). Travel Decision-making-The SOMOAR Conceptualisation.
<https://www.alexandria.unisg.ch/handle/20.500.14171/102031>
- Lah, N. S. C., HUSSIN, A. R. C., RAHIM, N. Z. A., & BUSALIM, A. H. (2016). Social Learning Approach in Designing Persuasive E-Commerce Recommender System Model. *Journal of Theoretical & Applied Information Technology*, 90(2).
- Lin, J., Luo, Z., Cheng, X., & Li, L. (2019). Understanding The Interplay of Social Commerce Affordances and Swift Guanxi: An Empirical Study. *Information & management*, 56(2), 213-224.
- Liu, C., Bao, Z., & Zheng, C. (2019). Exploring consumers' purchase intention in social commerce: An empirical study based on trust, argument quality, and social presence. *Asia Pacific Journal of Marketing and Logistics*.
- Liu, P., Han, C., & Teng, M. (2021). The Influence of Internet Use on Pro-Environmental Behaviors: an Integrated Theoretical Framework. *Resources, Conservation and Recycling*, 164, 105162.
- Liu, Y., Li, Q., Edu, T., Fam, K. S., Zaharia, R., & Negricea, C. (2023). Mobile Social Commerce Content, Consumer Emotions and Behaviour. *International Journal of Consumer Studies*.
- Ming, J., Jianqiu, Z., Bilal, M., Akram, U., & Fan, M. (2021). How Social Presence Influences Impulse Buying Behavior In Live Streaming Commerce? The Role of SOR Theory. *International Journal of Web Information Systems*, 17(4), 300-320.
- Molinillo, S., Anaya-Sanchez, R., & Liebana-Cabanillas, F. (2020). Analyzing the Effect of Social Support and Community Factors on Customer Engagement and Its Impact on Loyalty Behaviors Toward Social Commerce Websites. *Computers in Human Behavior*, 108, 105980.
- Moore, J. (1987). The Roots of The Family Tree: A Review of Four Books on the History and Nature of Behaviorism. *The Psychological Record*, 37(4), 449-470.
- Pandita, S., Mishra, H. G., & Chib, S. (2021). Psychological Impact of Covid-19 Crises on Students through the Lens of Stimulus-Organism-Response (SOR) Model. *Children and Youth Services Review*, 120, 105783.
- Shirazi, F., Hajli, N., Sims, J., & Lemke, F. (2022). The Role of Social Factors in Purchase Journey in The Social Commerce Era. *Technological Forecasting and Social Change*, 183, 121861.
- Wang, C., Zhang, P. (2012). The Evolution of Social Commerce: The People, Management, Technology, and Information Dimensions. *Commun. Inf. Syst.*, 31, 105–127.
- Wang, X., Wang, H., & Zhang, C. (2022). A Literature Review of Social Commerce Research from a Systems Thinking Perspective. *Systems*, 10(3), 56.
- Wang, X., Wang, H., & Zhang, C. (2022). A Literature Review of Social Commerce Research from a Systems Thinking Perspective. *Systems*, 10(3), 56.
- Wang, Y., Lu, Z., Cao, P., Chu, J., Wang, H., & Wattenhofer, R. (2022). How Live Streaming Changes Shopping Decisions in E-Commerce: A Study of Live Streaming Commerce. *Computer Supported Cooperative Work (CSCW)*, 1-29.
- Wigand, R. T., Benjamin, R. I., & Birkland, J. L. (2008). Web 2.0 and Beyond: Implications for Electronic Commerce. In *Proceedings of The 10th International Conference on Electronic Commerce* (pp. 1-5).

- Wongmonta, S. (2021). Marketing 5.0: The Era of Technology for Humanity with a Collaboration of Humans and Machines. *Nimitmai Review Journal*, 4(1), 83-97.
- Xu, X., Wu, J. H., & Li, Q. (2020). What Drives Consumer Shopping Behavior in Live Streaming Commerce?. *Journal of Electronic Commerce Research*, 21(3), 144-167.
- Zhang, P., & Wang, C. (2012). The Evolution of Social Commerce: An Examination from the People, Business, Technology, and Information Perspective, *Communications of the AIS (CAIS)*, 31, 105-127.
- Zhu, W., Mou, J., Benyoucef, M. (2019). Exploring Purchase Intention in Cross-Border E-Commerce: A Three Stage Model. *Journal of Retailing and Consumer Services*, 51, 320–330.