



The effect of celebrity effect on consumers' purchase intention in live streaming

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Abstract. This study constructs a theoretical framework for the influence of celebrity effect in live streaming on consumers' purchase intention in a fully quantitative way. The data analysis of the questionnaire results was carried out by means of a questionnaire survey with the help of SPSS software, and the three dimensions of trustworthiness, expertise and interactivity of celebrity information sources in live streaming were used to study consumers' purchase intentions. Using the credibility of product and quality perceived of products as intermediate variables, validating the impact of the characteristics of celebrity information sources in live streaming on credibility and quality perceived of products, and thus on consumers' purchase intentions.

Keywords: Celebrity effect; Live streaming; Celebrity information source; Credibility of products; Quality Perceived of products; Purchase intentions.

1 Introduction

The development of e-commerce has become more and more mature in recent years, and since 2015, live streaming has been among the mobile internet windfall, more and more platforms with resources have started to favour live streaming [1]. With the rise of more new media platforms, the live streaming of products is becoming increasingly popular and trusted by consumers. More vivid presentations, a wider variety of products and lower purchase prices than e-commerce platforms are attracting consumers to start buying quality products through live streaming, especially in daily necessities and skin care products. According to information, the data of live streaming in TikTok broke 100 million in the year 2020 and 2021 from March to July, and this year the data increases four times which compared to last year's in the same period. The branded live streaming rooms that are being strongly supported, the celebrity live streaming rooms that are becoming more and more perfect, those made the TikTok e-commerce become more mature and rich. Nowadays, the mode of selling goods is not only limited to online merchants, but more often brands invite celebrities to their live streaming rooms to sell goods. Sometimes some celebrities are not familiar with the products can also lead to changes in consumers' trust in the products, thus affecting the willingness to buy.

2 Literature review

2.1 Features of the Celebrity Information Source

Meng (2020) [2] found that live webcasters stimulated consumers' willingness to buy through the information source characteristics of expertise, interactivity and attractiveness. Fengjun Liu (2020) [3] mentions four characteristics of information sources that can influence their persuasive effect on audiences in terms of credibility, expertise, attractiveness and interactivity. The attractiveness of an information source is the power to guide people in a certain direction. The interactivity of information source refers to the various forms of real-time communication between the information source and the audience, online or offline, which makes the audience feel a sense of social presence. This research considers that the characteristics of celebrity information sources are similar to those of online celebrities, and therefore defines the characteristics of celebrity information sources from three perspectives, namely credibility, expertise and interactivity.

2.2 Credibility in Product and Quality Perceived

The study by Mahmud (2013) [4] mentions that trust forms when one party has confidence in an exchange partner's reliability and integrity, a trust violation would create a negative image of the online store. Xuemei Bi's (2004) [5] research found that customers perceive quality is very subjective, mainly through sight, hearing, feeling and through the analysis and judgement of the information they understand to evaluate the quality of the product. Espejel (2007) [6] argue that service quality as a perceived judgment, resulting from an evaluation process. The study of Elena (2019) [7] indicates that an individual's perception of quality will differ depending on a number of factors such as the moment in which they acquire the information or data defining the characteristics of the product, or the place where the purchase is made, or the goods consumed. This research concludes that both credibility in product and quality perceived of product are subjective in nature, that is to say consumers form their own perceptions through external information and data, thus generating trust and quality perceptions of products. The trust and quality perceptions that consumers form subjectively can play a decisive role in determining purchase intentions.

3 Research Framework and Hypotheses

3.1 Research Framework

Based on all the theories above, this research presents the research framework in Figure 1. Although some studies have shown that the expertise and interactivity characteristics of live webcasters affect consumers' willingness to purchase products, they have only studied the influence of webcasters' expertise and consumers' willingness to purchase, not in terms of webcasters' expertise and perception of products. Therefore, with all theories above, this paper finds that there are similarities between the charac-

teristics of webcaster and celebrity, and then combines the uniqueness of celebrity and consumers' perceptions of products to build a corresponding research framework. As shown in Figure 1, it is hypothesised that the credibility, expertise and interactivity of the celebrity in the live streaming will influence consumers' trust and quality perceived of the product, and thus affect consumers' willingness to purchase the product.

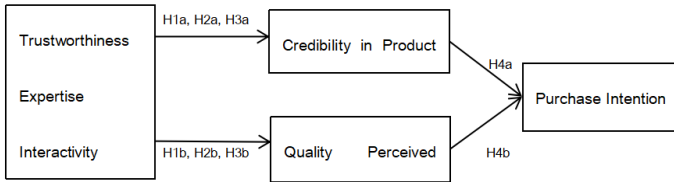


Fig. 1. Research Framework. (Source: self-made.)

3.2 Hypotheses

3.2.1 The influence of celebrity information source characteristics on credibility and quality perceived of product.

From a marketing perspective, according to this theory, when consumers are stimulated by more credible information, such as a highly credible celebrity who lives in live streaming, the more they will transfer their feelings about this information to the corresponding product or service, resulting in a sense of credibility of product. Similarly, highly credible celebrities are perceived by consumers as experts. Some research has highlighted that the celebrities are people who enjoy public recognition and mostly they are the experts of their respective fields, these celebrities bring reliability and trust in the brand and above all, they help in increasing the sales revenues [8]. Therefore, consumers develop a perception that the brand or product is of high quality and reliability. This research proposes hypotheses:

H1a: Celebrity's trustworthiness in live streaming positively influences consumers' credibility of product.

H1b: Celebrity's trustworthiness in live streaming positively influences consumers' quality perceived of product.

According to the expertise of celebrity sources, some studies mentioned that expertise derives from an actor's ability to provide information to others because of his experience, education, or competence [9]. According to the theory mentioned by Kelman (1961) [10], when an individual adopts behavior derived from another person or a group. These conclude that the celebrity expresses and recommends the product to the consumer through professional recommendations and with real-life experience of using the product, and the consumer thus develops a satisfactory self-perception, which leads to a sense of trust and awareness of the product. Accordingly, the hypotheses are formulated:

H2a: Celebrity's expertise in live streaming positively influences consumer's credibility of product.

H2b: Celebrity's expertise in live streaming positively influences consumer's quality perceived of product.

According to the interactivity of information sources, Tong (2017) [11] conducted a study on consumer purchase intentions in a live streaming environment, which showed that the interactive feature of webcast positively affects customers' trust. Therefore, according to this theory, the interactivity of celebrity in live streaming affects consumers' trust in the product. And also according to the SOR model, a celebrity gives a specific interactive stimuli during live streaming can drive online customers' perception of the quality of the product. This research proposes the following hypotheses:

H3a: Celebrity's interactivity in live streaming positively influences consumer's credibility of product.

H3b: Celebrity's interactivity in live streaming positively influences consumers' quality perceived of product.

3.2.2 The influence of credibility of product and quality perceived of product on consumers' purchase intention.

Everard and Galletta (2005) [12] studied individuals' willingness to buy in an online environment, present that when trust is present, individuals are more likely to engage in cooperative behaviors and are more inclined to engage in emotional or financial transactions. This study draws an analogy between this theory and the fact that consumers will be more likely to buy a product when they have a sense of trust in it. Kempf (1998) [13] and others have also highlighted through experiments on consumer perceptions that the perception of diagnosticity strengthens consumer's confidence in purchasing a product. Specifically, if consumers receive more information through online interactions with celebrity, they will develop a perception of product quality so that their purchase intention will be more firm. Based on the theories above, the research present the hypotheses:

H4a: Consumer's credibility of product positively influences the purchase intentions.

H4b: Consumer's quality perceived of product positively influences the purchase intentions.

4 Method

4.1 Samples and data collection

The resaerch was conducted using a 5-point Likert scale, where 1 means 'totally disagree' and 5 means 'totally agree', and use a scenario-based questionnaire, where respondents were asked to read the scenario before filling in the questionnaire. This questionnaire is used for chinese consumers between the ages of 18 and 50. The scenario introduction section required respondents to read the following context: "You are planning to buy daily and skincare products, but you have looked at many shopping platforms but have not found anything satisfactory, at that moment you happen to see a live streaming where celebrities such as Zitao Huang, Yi Sun and Nana Ouyang are invited by a brand sellers to perform a live streaming." Respondents will

begin filling out the questionnaire after reading the scenario and will begin with the screening question: “Have you ever purchased goods through the live streams of Zitao Huang, Yi Sun, Nana Ouyang, etc.?” This questionnaire was collected through the Questionnaire Star Platform by filling in questionnaires from each other, the platform, and WeChat. 300 questionnaires were put out, and 220 questionnaires were returned, of which 108 were filled in from each other, 68 from the platform, and 44 from WeChat. After excluding the questionnaires due to screening questions, 157 questionnaires were valid, with an efficiency rate of 72%. The descriptive information of the samples is shown in Table 1. This research conducted a Harman One-Way Test on the data and the results showed that when all items were combined into a single factor, the common variance shown was 33.6%, which was less than 50%, so there was no significant common method bias in the data. [14] Also in this research, in order to provide a more intuitive and clear response to the above theories, the following measurement variables will be shown, as shown in Figure 2, the consumer’s credibility of product will be measured in terms of consistency between the actual product and the product in live streaming, and consumer’s quality perceived of product will be measured in terms of product materials, product design and product quality.

Credibility in Product	You think the products you buy from the live streaming will be what you think they are
	You are confident that you will be able to use products like the celebrity demonstrated in the live streaming
	You are confident that the product you receive will be the same as the one shown in the live streaming
Quality Perceived	You think the products which were recommended in live streaming are made from healthy materials
	You think the products which were recommended in live streaming have innovative design
	You think the quality of the products which were recommended in live streaming is high

Fig. 2. Variable measurement questionnaire. (Source: self-made.)

Table 1. Respondents' demographic profile.

Profile	Characteristic	Frequency	Percent
Gender	Male	41	26.1%
	Female	116	73.9%
Age	18-25 years	33	21.0%
	26-30 years	51	32.5%
	31-40 years	34	21.7%
	41-50 years	39	24.8%
Education	Undergraduate	21	13.4%
	Graduate	111	70.7%
	Postgraduate	20	12.7%
	Others	5	3.2%
Income/ Month	Up to 3000 ¥	27	17.2%
	3001-5000 ¥	37	23.6%
	5001-8000 ¥	37	23.6%
	8001-10000 ¥	37	23.6%
	Above 10001 ¥	19	12.1%

Source: self-made.

4.2 Analysis of data

4.2.1 Reliability and validity analysis.

To ensure the reliability and validity of the questionnaire, this research used more established scales. The celebrity information source characteristics and purchase intention draw on the scale of OHANIAN [15] and Fengjun Liu. Adapting the webcasters' characteristics to the celebrities' characteristics. The questions include three items of credibility, three items of expertise, three items of interactivity and three items of purchase intention. The credibility of product reference is modified from Apiradee's [16] research, which included three items. The quality perceived of product was informed by the study of Suttikun [17] and included three items. In this study, reliability analysis was conducted for six variables, and after the analysis, the Cronbach's α are 0.792, 0.792, 0.724, 0.793, 0.743 and 0.763, all the results were more than 0.7, while CR were approximately 0.7 and AVE were more than 0.5.

Therefore, there was some reliability between the variables. The specific data are shown in Table 2.

Table 2. Cronbach's Alpha, Composite Reliability and Average Variance Extracted of constructs.

Construct	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Trustworthiness	0.792	0.707	0.879
Expertise	0.792	0.707	0.879
Interactivity	0.724	0.650	0.848
Credibility in Product	0.793	0.708	0.879
Quality Perceived	0.743	0.662	0.855
Purchase Intention	0.763	0.683	0.866

Source: self-made.

4.2.2 Results of testing.

The effect of celebrity's trustworthiness on credibility of product was highly significant ($\beta = 0.489$, $p < 0.001$) and the effect of celebrity's trustworthiness on quality perceived of product was highly significant ($\beta = 0.365$, $p < 0.001$). Celebrity's expertise had a significant effect on credibility of product ($\beta = 0.190$, $p < 0.01$) and celebrity's expertise had a highly significant effect on quality perceived of product ($\beta = 0.294$, $p < 0.001$). Celebrity's interactivity had a significant effect on credibility of product ($\beta = 0.193$, $p < 0.01$) and celebrity's interactivity had a highly significant effect on quality perceived of product ($\beta = 0.260$, $p < 0.001$). Similarly, the credibility of product had a significant effect on consumers' purchase intentions ($\beta = 0.489$, $p < 0.001$) and the quality perceived of product had a significant effect on consumers' purchase intentions ($\beta = 0.410$, $p < 0.001$). All the relevant data can be found in Table 3. Based on the results of the above analysis, H1a, H1b, H2a, H2b, H3a, H3b, H4a, H4b were all failed to reject to some extent.

Table 3. Results of hypothesis testing.

Hyp	Path	β	t	Result
H1a	Trustworthiness → Credibility	0.489	6.575***	Fail to reject
H1b	Trustworthiness → Quality Perceived	0.365	5.209***	Fail to reject
H2a	Expertise → Credibility	0.190	2.704**	Fail to reject
H2b	Expertise → Quality Perceived	0.294	4.430***	Fail to reject
H3a	Interactivity → Credibility	0.193	2.663**	Fail to reject
H3b	Interactivity → Quality Perceived	0.260	3.796***	Fail to reject
H4a	Credibility → Purchase Intention	0.489	7.720***	Fail to reject
H4b	Quality Perceived → Purchase Intention	0.410	6.476***	Fail to reject

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < .001$.

Source: self-made.

5 Conclusion

The following conclusions were shown from this research: 1. The trustworthiness, expertise and interactivity of celebrity in live streaming positively influence consumers' credibility of product and the quality perceived of product. 2. On the other hand, consumers' credibility and the quality perceived of product positively influence their purchase intentions. On the theoretical side, this paper adopts a fully quantitative approach in its research methodology and extends the research related to the influence of celebrity effect on consumer perception, purchase intention and product sales in the e-commerce environment by taking the characteristics of celebrity information sources in live streaming as the research object. The similarities between the characteristics of celebrity information sources and the webcaster information sources in live streaming are also found. In reality, consumers nowadays no longer seek to buy products in physical shops in a direct way, but prefer to learn more about cost-effective products through the trusted celebrity in the form of live streaming purchases, and they focus more on the pleasant shopping experience brought by the merchants during the purchase process. Different celebrities are not only recommenders but also users of products in the live streaming process. They have more direct access to the actual products than consumers, so their expertise and trustworthiness will directly influence consumers' judgement of the value of the products in the live streaming. The appropriate interaction between the celebrity and the consumer during the live streaming will, to a certain extent, increase the consumer's pleasant shopping experience in the

live streaming, and they will develop a deeper sense of self-identification and perception, which will in turn act on the perception of the quality of the product, thus increasing their purchasing confidence and therefore positively influencing the consumer's purchasing behaviour.

There are also some limitations to this study: 1. The generalizability of the study may be affected by the use of a specific situational survey format that restricts the specific product types and celebrities, but according to the current state of consumer behaviour, most of the purchasers of daily and skincare products through live streaming are young people and women. 2. Although this study suggests that the interactivity of celebrity during live streaming will positively affect consumers' trust and perception of the product, it is not yet known whether the form of interaction and the number of interactions will negatively affect consumers' trust and perception of the product. 3. Many factors in the shopping environment can influence consumers' perceptions of products, not only the characteristics of the celebrities, but also their own consumption preferences and needs, which can affect their purchasing behaviour to a certain extent. Therefore, the next step could be to conduct a more in-depth study of consumer buying behaviour in terms of the influence of the celebrity effect on consumer buying preferences and needs in live streaming.

References

1. Econet Intelligence. China Live Entertainment Industry White Paper 2016 [EB/OL], <http://www.useit.com.cn/thread-13381-1-1.html>, 2016-9-13.
2. Lu Meng, Fengjun Liu, Suyun Chen (2020). Can I arouse you: A study on the mechanism of the characteristics of different types of live web celebrities' information sources on consumers' purchase intention[J]. *Nankai Management Review*, 23(1): 131-143.
3. Fengjun Liu, Lu Meng, Suyun Chen, Shen Duan (2020). Study on the impact of live webcast on consumers' purchase intention and its mechanism[J]. *Journal of Management*, 17(1): 94-104.
4. Mahmud A. Shareef, Norm Archer, Wilfred Fong, Mir Obaidur Rahman and Inderjit Mann (2013). Online Buying Behavior and Perceived Trustworthiness. *British Journal of Applied Science & Technology*, 3(4): 662-683.
5. Xuemei Bi (2004). Research on customer perceived quality [J]. *Journal of Huazhong Agricultural University (Social Science Edition)*, (Total 53) 2004(3): 42-45.
6. Espejel, J., Fandos, C. and Flavián, C. (2007). The role of intrinsic and extrinsic quality attributes on consumer behaviour for traditional food products. *Managing Service Quality: An International Journal*, 17(6), 681-701.
7. Elena Rosillo-Díaz, Francisco Javier Blanco-Encomienda and Esmeralda Crespo-Almendros (2019). A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms. *Journal of Enterprise Information Management*, 139-160.
8. Saumendra and Padhy (2012). Brand Perception By Celebrity Endorsement. *International Journal of Advanced Research in Management and Social Sciences*, 1(2), 79-93.
9. Joann Horai, Nicholas Naccari, and Elliot Fatoullah (1974). The Effects of Expertise and Physical Attractiveness upon Opinion Agreement and Liking. *Sociometry*, 37(4), 601-606.
10. Herbert C. Kelman (1961). Processes of Opinion Change. *The Public Opinion Quarterly*, 25(1), 57-78.

11. Jinhua Tong (2017). A Study on the Effect of Web Live Broadcast on Consumers' Willingness to Purchase. *Open Journal of Business and Management*, 4(5), 280-289.
12. Andrea Everard and Dennis F. Galletta (2005). How Presentation Flaws Affect Perceived Site Quality, Trust, and Intention to Purchase from an Online Store. *Journal of Management Information Systems*, 22(3), 55-95.
13. Kempf, D. S., & Smith, R. E. (1998). Consumer processing of product trial and the influence of prior advertising: A structural modeling approach. *Journal of Marketing Research*, 35(3), 325-337.
14. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *The Journal of Applied Psychology*, 88(5), 879-903.
15. OHANIANR (1991). The importance of celebrity spokes- persons' perceived image on consumers' intention to purchase [J]. *Journal of Advertising Research*, 31(1), 34-51.
16. Apiradee Wongkitrungrueng, Nuttapol Assarut(2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of Business Research*, 117, 543-556.
17. Chompoonut Suttikun, Supawat Meeprom(2021). Examining the effect of perceived quality of authentic souvenir product, perceived value, and satisfaction on customer loyalty. *Cogent Business & Management*, 8(1), 1-19.

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