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타오바오 라이브 스트리밍 쇼핑의 제품 구매 의도에 영향을 미치는 요인

왕조신[1] · 이상준[2*] · 이경락[2]
[1]전남대학교 대학원 전자상거래협동과정
[2]전남대학교 경영학부

Factors Influencing Product Purchase Intention in Taobao Live Streaming Shopping

Wang Zhaoxing[1] · Sang-Joon Lee[2*] · Kyeong-Rak Lee[2]

[1]Interdisciplinary Program of E-commerce, Graduate School of Chonam National University, Gwangju, 61186, Korea
[2]School of Business Administration, Chonnam National University, Gwangju, 61186, Korea

[요 약]

본 논문은 정교화 가능성 모델을 채택하여 타오바오 라이브 스트리밍 쇼핑에서 제품 구매 의도에 영향을 미치는 요소에 대해 연구하였다. 설문 조사 방법을 사용하여 데이터를 수집하고 가설을 조사하였다. 연구 결과 출처 매력은 실용적인 제품보다 쾌락 제품에서 제품에 대한 태도에 더 큰 영향을 미쳤고, 논증 품질은 실용적인 제품에서 쾌락 제품보다 제품에 대한 태도에 더 큰 영향을 미쳤다. 추가 분석에서, 쾌락 제품에 대하여, 출처 매력과 논증 품질은 모두 제품에 대한 태도에 긍정적인 영향을 미치고, 논증 품질은 제품에 대한 태도에 긍정적인 영향을 미치지만, 출처 매력은 실용적 제품에 대한 태도에 유의한 영향을 미치지 않았다. 마지막으로, 제품에 대한 태도는 제품 구매 의도에 긍정적인 영향을 미치는 것으로 나타났다.

[Abstract]

We studied on factors influencing product purchase intention in Taobao live streaming shopping by adopting the Elaboration Likelihood Model (ELM). We used the survey method to collect the data and examine the hypotheses. The results are as follows. Source attractiveness has stronger effect on attitude toward product in the condition of hedonic product than in the condition of utilitarian product. Argument Quality has stronger effect on attitude toward product in the condition of utilitarian product than in the condition of hedonic product. In additional analysis, in the condition of the hedonic product, both of the source attractiveness and the argument quality have a positive effect on the attitude toward product. While argument quality has a positive effect on attitude toward product, but the attractiveness has no significant effect on the attitude toward product in the condition of utilitarian product. Finally, attitude toward product has a positive effect on product purchase intention.

색인어 : 인지된 인기도, 상호작용, 소스 매력도, 주장 품질, 정교화 가능성 모델

Key word : Perceived Popularity, Interactivity, Source Attractiveness, Argument Quality, Elaboration Likelihood Model

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***Corresponding Author; Sang-Joon Lee**

Tel: +82-62-530-1447
E-mail: s-lee@jnu.ac.kr

Ⅰ. Introduction

Nowadays, Internet celebrity economy, increasing on the live streaming, has attracted sizable investment. Live streaming as we media, is changing young peoples' life, even it is changing the ecosystem of the e-commerce in china. According to China Internet Network Information Center, the number of live streaming users reached 325 million by the end of June 2016－that's nearly half of China's total internet population of 710 million.

When live streaming service has risen to become an important way to gather popularity, Chinese e-commerce platforms such as Mogujie.com, Jumei.com and even Taobao.com, have all started to provide similar service to attract more traffic. At present, Mogujie.com, Taobao.com and Jumei.com are the three dominant Chinese e-commerce platforms that have already been providing live video streaming service. While Mogujie.com and Jumei.com allow Internet celebrities to live broadcast videos about products, Taobao encourage shop owners to live stream about their products. In our study, we choose Taobao live streaming platform as the basic platform to do examination.

According to Taobao Live, the Conversion Rate of Content on the live-streaming site is 32 percent - in other words, 320,000 items will be added to buyer shopping carts per one million views, with actual purchase figures not available. It's more than likely that live streaming will become a standard feature of all e-commerce platforms in China in the close future.

In this paper, we will focus on the live streaming shopping and the Internet celebrity economy; explore how the Internet celebrity economy effect on the live streaming shopping; aim to explain the mysteriously high conversion rate of content on the Taobao live-streaming site; find out the factors of purchase intention on Taobao live streaming under the impact of the Internet celebrity; provide a theoretical basis for developing of live streaming shopping.

On the basis of the above literature, we are going to evaluate and test the analysis conclusion by the method of empirical analysis. Considering the influence of the Internet celebrity economy and the characteristics of the live steaming platforms, it is to analyze purchase intention on Taobao live streaming from the popularity of the live anchors and the interactive of the live streaming.

The survey design and data analysis can be divided into several steps: First, design the questionnaire according to the results of literature review and the design should be convenient for interviewees to complete.

Second, hand out and retrieve the questionnaires. We will confirm the time and only hand out on Taobao live streaming to guarantee the effectiveness of the retrieved questionnaires. Finally, analyze data. We will count the questionnaires, process and analyze the data through the SPSS software, and get conclusions after comparative studies of the results.

Through data analysis, we find out the important points and key factors of purchase intention on Taobao live streaming. In this way, we can make sure whether the popularity of the live anchors and the interactive of the live streaming have significant effect on the purchase intention. Then, we can get the related coefficient by SPSS statistical software to compare and analyze the utility and consistence of Taobao live streaming.

Finally, according to interviewee's evaluation results, we make comprehensive evaluation, and then get the conclusion.

Ⅱ. Theoretical Background

2-1 Internet Celebrity in China and Live anchor

Celebrities are well-known individuals who receive significant media attention[1]. China Internet celebrities, often called Wang Hong, refer to those who become famous on the Internet. They may catch people's eyes because of certain events or behaviors and earn followers and fans on social platforms. Internet celebrity economy, rising on live streaming, has attracted sizable investment.

In this paper, the live anchor is someone who streams to sell products on Taobao live, including hired Internet celebrities and Taobao shop owners who stream to sell products on Taobao live.

2-2 Taobao Live Streaming

Alibaba's Taobao, China's biggest online shopping site, has launched its own live-streaming platforms - Taobao Live streaming. Shop owners and brands can hire Internet celebrities with large fans base to help promote their products, and meanwhile, a link to the purchasing page hovers on the streaming screen, or the shops owners stream selling products on Taobao live by themselves.

2-3 Elaboration Likelihood Model (ELM)

In this paper, we adopted The Elaboration Likelihood Model (ELM). The role of influence processes in shaping human perception and behavior has been examined by dual-process theories in the social psychology literature. Similar to innovation diffusion theory[2], dual-process theories suggest that external information is the primary driver of attitude change and consequent behavior change. Such information introduces people to new possibilities, causes them to reexamine their prior beliefs and attitudes, and potentially changes extant behaviors. However,

unlike IDT, dual-process theories suggest that social judgments are not always based on effortful processing of judgment-relevant information, but can sometimes be based on less effortful processing of heuristic cues. These two alternative processes of attitude formation, namely more versus less effortful processing of information, form the core of all dual-process theories. Further, dual-process theories also specify conditions under which each of the two alternative processes is likely to be invoked. Interested readers are referred to Eagly and Chaiken[3] and Chaiken and Trope[4] for detailed discussions on the various dual processing's theories in social psychology. The specific dual process theory of interest to this study is the elaboration likelihood model (ELM). This theory was specifically chosen because (1) it relates directly to influence processes and their impacts on human perceptions and behavior and (2) it also explains why a given influence process may lead to differential outcomes across different users in a given usage setting. ELM posits that attitude change among individuals may be caused by two "routes" of influence, the central route and the peripheral route, which differ in the amount of thoughtful information processing or "elaboration" demanded of individual subjects[5]. The central route requires a person to think critically about issue-related arguments in an informational message and scrutinize the relative merits and relevance of those arguments prior to forming an informed judgment about the target behavior. In IT acceptance contexts, such arguments may refer to the potential benefits of system acceptance, comparison of alternative systems, availability and quality of system support, and/or costs of and returns from system acceptance. The peripheral route involves less cognitive effort, where subjects rely on cues regarding the target behavior, such as number of prior users, endorsements from IT experts, and likeability of or affinity toward the endorser, rather than on the quality of arguments, in attitude formation. In the latter instance, attitude change results from peripheral processes such as identification with the source[6] or reliance on decision heuristics[7]. The central and peripheral routes of attitude change are typically operationalized in ELM research using the argument quality and peripheral cues constructs respectively, as shown in Figure 1.

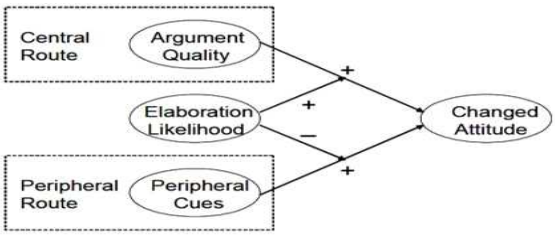

그림 1. 정교화 가능성 모델
Fig. 1. Elaboration Lokelihood Model

The central and peripheral routes are distinct in at least three ways. First, the two routes process different types of information. The central route processes message-related arguments, while the peripheral route processes cues. Second, the cognitive effort involved in information processing is much higher in the central route than in the peripheral route. The central route requires thoughtful comprehension of the arguments presented, evaluation of the quality of those arguments, and combination of multiple and sometimes conflicting arguments into an overall evaluative judgment, while the peripheral route is less demanding in that it merely requires subjects' association with salient positive or negative cues related to the attitude object [8]. Third, perception changes induced via the central route are generally more stable, more enduring, and more predictive of long-term behaviors since they are based on deliberate and thoughtful consideration of relevant arguments [9]. In contrast, changes induced via peripheral cues tend to be less persistent, susceptible to counter influence, and less predictive of long term behaviors.

According to ELM, information recipients can vary widely in their ability and motivation to elaborate on an argument's central merits, which in turn may constrain how a given influence process impacts their attitude formation or change.

This ability and motivation to elaborate is captured in ELM by the elaboration likelihood construct. As Petty and Wegener[10] note, "The term 'elaboration' is used to suggest that people add something of their own to the specific information provided in the communication…beyond mere verbatim encoding of the information provided".

People in the high elaboration likelihood state are more likely to engage in careful scrutinization or thoughtful processing of an information message and, therefore, tend to be more persuaded by argument quality than by peripheral cues. In contrast, those in the low elaboration likelihood state, lacking the motivation or ability to deliberate thoughtfully, tend to be motivated by peripheral cues.

Note that ELM does not imply that people influenced via the central or peripheral routes will experience different outcomes. Surely, two individuals may arrive at the same conclusion (e.g., accept a given IT) even if such decision resulted from two entirely different (argument-based or cue-based) influence routes. Similarly, some may seek out message arguments in a given informational message, while others may be predisposed to searching for peripheral cues in that same message. In other words, ELM suggests that (1) a common influence process can engender very different responses across different individuals in a given population, (2) a common influence process may result in varying responses for the same individual if her elaboration likelihood fluctuates with technology, time, or situational

contexts, and (3) different influence processes may generate similar responses among a diverse population. In short, elaboration likelihood moderates the effects of argument quality and peripheral cues on perception change.

ELM describes elaboration likelihood in terms of its two component dimensions, motivation and ability to elaborate, both of which should be present for extensive elaboration to occur[11]. ELM researchers have typically operationalized motivation as recipients' personal relevance of the available information, and their ability as prior expertise or experience with the attitude object. If information recipients view a given message as being important and relevant to the target behavior, they are more likely to invest the necessary cognitive effort to adequately scrutinize its information content. In contrast, those that view the same message as having little personal relevance may not be willing to spend the time and effort in analyzing that message, but instead rely on cue-based heuristics for framing their perceptions. Likewise, experts in the target behavior are more likely to carefully consider the quality of arguments presented instead of relying on potentially incomplete or inaccurate peripheral cues. No experts, in contrast, may have little choice but to depend on peripheral cues such as credibility of the information source. Hence, personal relevance and prior expertise are presumed to moderate the effects of argument quality and peripheral cues on perception changes.

It should be noted that elaboration likelihood is not a personality trait or an individual difference, but rather a temporal state that may fluctuate with situational contexts and time, even for the same individual. For instance, a physician may be an expert in diagnosing medical conditions but a novice in automotive repair. Hence, she may employ the central route for diagnosing and treating medical conditions among her patients, but rely on the peripheral route, such as advice from an auto technician, for diagnosing and correcting automotive malfunctioning. Likewise, domain experts, who normally tend to rely on central route processing for deciding on a target behavior, may sometimes rely on the less demanding peripheral route if they lack the time or resources to adequately process all message-related arguments. Given its state representation, elaboration likelihood can be enhanced in the workplace by manipulating the message, the source, and the influence context, such as the amount of time available to process arguments, extent of message repetition, the number of distractions, and pre-message conditioning (e.g., telling subjects that they will be questioned on the message later). Indeed, ELM researchers like Petty, Haugtvedt, and Smith[12] and others have manipulated this construct in laboratory tests of the theory.

ELM has enjoyed a rich tradition of empirical research in the social psychology[13] and marketing[14] literatures. However, to date, it has seen only limited use in information systems research. Among its early IS applications, Mak et al.[15]conducted an experiment to examine how users' participation in designing an expert system, as a proxy for elaboration likelihood motivation, influenced their acceptance of the system's recommendations. Consistent with predictions from ELM, they observed two alternative routes of influence: users with low participation were primarily influenced by the perceived credibility of expert system developers (a peripheral cue), while those with high participation were influenced by the ambiguity of the decision setting (an argument quality). Dijkstra[16] used ELM in an experimental setting to examine why some users tend to agree with incorrect advice generated by expert systems, and found that student subjects who expended less mental effort, scored lower on recall questions, and perceived assigned cases as being easy (low elaboration likelihood) agreed with incorrect system advice more often than those spending more time and effort in analyzing the system recommendations. Sussman and Siegel[17] employed ELM in a non-experimental setting to study knowledge adoption via electronic mail by consultants at a public accounting firm. They found that argument quality and source credibility positively influenced consultants' perceived usefulness of information contained in those e-mails, indirectly motivating them to accept that information in their own tasks. Sussman and Siegel also reported that recipients' involvement (elaboration motivation) and expertise (elaboration ability) moderated the main effects of argument quality and source credibility on perceived information usefulness. Interestingly, while most ELM studies have used attitude as the dependent variable, Sussman and Siegal employed perceived usefulness as the dependent variable of interest and found that ELM's postulates still apply.

Ⅲ. Research Design

3-1 Research Model

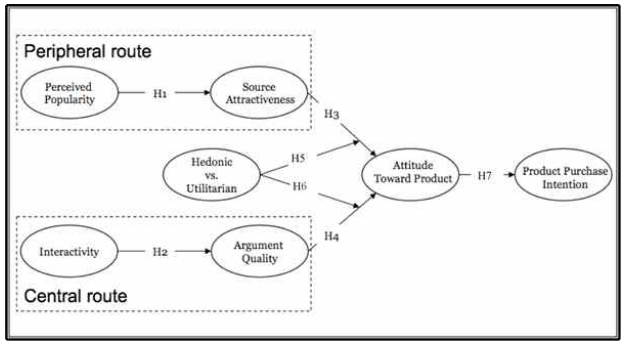

그림 2. 연구 모델
Fig. 2. Research Model

Based on the ELM model, considering the characteristics of the Taobao live streaming the central route contain the Interactivity; and considering the impact of the Internet celebrity economy we designed the perceived popularityand source attractiveness as the peripheral route.

The central and peripheral routes of attitude toward product are typically operationalized in our research using the argument quality and peripheral cues constructs respectively, as shown in Figure 2.

3-2 The Variables and the Routes

1） Peripheral Route: Perceived Popularity and Source Attractiveness

For many adolescents it is important to obtain high levels of peer acceptance. Being popular or liked by many holds advantages such as better access to potential mates and more support from others[18]. In this paper we define the Perceived popularity is the live anchor being popular or liked by many live streaming users. Popularity is a more diffuse concept that can be based on positive characteristics (intelligence, friendliness, attractiveness)[19]. But considering the characteristics of the Internet celebrity economic, popularity becomes a standard for judging people's charisma. Therefore we suppose the perceived popularity has a positive effect on the source attractiveness.

The decision to use attractiveness was further motivated by the fact that attractiveness has become an important factor through the increasing use of celebrities as endorsers for products, services and/or social causes[20]. A considerable body of research in advertising and communication suggests that physical attractiveness is an important cue in an individual's initial judgment of another person[21]. Despite the vast quantity of literature addressing physical attractiveness, the issue is far from clear. A review of the area indicates that the construct of attractiveness is not uni-dimensional and that there are myriad definitions used to operationalize attractiveness. For example, the construct has been defined both in terms of facial and physical attractiveness[22], with physical attractiveness operationalized in terms of model attractiveness (attractive-unattractive)[23], chicness[24], sexiness[25], or sexualness and likability[26]. In an exhaustive review, Joseph[27] summarized the experimental evidence in advertising and related disciplines regarding physically attractive communicators' impact on opinion change, product evaluation, and other dependent measures. He concluded that attractive (versus unattractive) communicators are consistently liked more and have a positive impact on products with which they are associated. Except for a few studies[28], Joseph's findings are consistent with others that report that increasing the communicator's attractiveness enhances positive attitude change [29].

2）Central Route: Interactivity and Argument Quality

Interactivity refers to the buyer's subjective perception of high-quality interaction with a seller. It encompasses (1) the degree of active control parties have over the communication process (control), (2) the extent to which the communication is reciprocal (two way), and (3) the degree to which their communication is synchronized (synchronicity). These three dimensions of interactivity, which were initially theorized, operationalized, and measured by Liu[30], before subsequently being adapted by Teo et al.[31] and Lowry et al.[32], are used in this paper.

Argument quality was measured using a Likert scale patterned after Sussman and Siegal's scale. The original scale examined completeness, consistency, and accuracy as dimensions of argument quality[33]. While experienced consultants in the original study may be able to reasonably judge the above dimensions of an informational message, our sample of mostly Taobao live streaming users were not expected to do so. Hence, we replaced the above dimensions with the extent to which subjects believed that information provided during the live streaming was informative, helpful, valuable, and persuasive.

3）Utilitarian VS. Hedonic

We define a utilitarian category as a category dominant on attributes such as functionality, practicality, cognition, and instrumental orientation, consistent with Dhar and Wertenbroch [34]. We define a hedonic category as a category dominant on attributes such as experiential benefits, affect, enjoyment, enduring involvement, intrinsic motivation, and aesthetics[35]. We classify product categories with a higher utilitarian score than hedonic score as utilitarian, and vice versa for the purchased product category basket[36]. Then depart the dates to two parts, the Utilitarian part and the hedonic part, and analysis the dates respectively.

3）Attitude toward Product

In psychology, an attitude is a psychological construct, it is a mental and emotional entity that inheres in, or characterizes a person[37]. They are complex and an acquired state through experiences. It is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or event (the attitude object) which in turn influences the individual's thought and action. Prominent psychologist Gordon Allport once described attitudes as "the most distinctive and indispensable concept in contemporary social psychology." Attitude can be formed from a person's past and present[38]. Key topics in the study of attitudes include attitude measurement, attitude change, consumer

behavior, and attitude-behavior relationships [39]. Attitude was measured using Taylor and Todd's [40] four-item semantic differential scale anchored between "bad…good," "foolish… wise," "unpleasant… pleasant," and "like…dislike" adjective pairs.

In this paper, we define the attitude toward product is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a product, which in turn influences the individual's thought toward product.

4) Purchase Intention

The willingness of a customer to buy a certain product or a certain service is known as purchase intention. Purchase intention is a dependent variable that depends on several external and internal factors. Purchase intention is defined as "Taobao live streaming user's intention to purchase products from live anchors in the future."

The theory behind customer's purchase intention of products on the Internet is actually generated from Fishbein and Ajzen's Theory of Reasoned Action (TRA), which they have proposed in 1975. In Fishbein and Ajzen's TRA, it stresses on the prediction of behaviors rather than the attitudes that human holds and together with Ajzen's behavior theory[41], it assures that customer's behavioral intentions has a higher possibility to be performed out when motivation is added to strengthen the intention. If customers' intention can be calculated or predicted, then it will be easier for the online stores' managers or insiders within live streaming industry to predict their purchase intentions as it is linked to their actions.

Other than customers' intentions or behaviors, customer loyalty also works as another indicator for the prediction of purchase intention [42]. With regards to Zeithaml et al. [43], purchase intention is also included in customers' behavioral intention. In order to understand customers' consumption patterns, there is a need to understand their purchase intentions as purchase intentions are linked up with their actual behavior.

3-3 Research Hypotheses

H1. Perceived popularity of live anchor has a positive effect on source attractiveness.

H2. Interactivity has a positive effect on the argument quality of informational messages.

H3. Source attractiveness has a positive effect on attitude toward the product.

H3-1. Source attractiveness has a positive effect on attitude toward the product, when the product category is hedonic.

H3-2. Source attractiveness has a positive effect on attitude toward the product, when the product category is utilitarian.

H4. Argument quality has a positive effect on attitude toward the product.

H4-1. Argument quality has a positive effect on attitude toward the product, when the category is hedonic.

H4-2. Argument quality has a positive effect on attitude toward the product, when the category is utilitarian.

H5.Source attractiveness has stronger effect on attribute toward product in the condition of hedonic product than in the condition of utilitarian product.

H6. Argument Quality has stronger effect on attribute toward product in the condition of utilitarian product than in the condition of hedonic product.

H7. Attitude toward the product have a positive effect on product purchase intention.

Ⅳ. Research Methodology

4-1 Survey Design

The advantages and disadvantages as well as the reliability of this research were also part of the objective. In order to answer these objectives, we chose respondents that can give their views focus on Taobao live streaming with this topic. Most of the respondents are female teenagers which had the experience of shopping on the Taobao live streaming agreed to participate in the study. Respondents were selected through purposive method, and the questionnaires do not collect the respondents' names to maintain anonymity. The survey is conducted in Chinese. English questions have been translated in Chinese by three rounds of verification and correction. The Chinese version of the questionnaire was re-edited by a Chinese researcher who has a fluency in Chinese logic. Along with the primary information, we also used secondary resources in form of published articles and literature to support the result of my survey.

Quantitative research is the center for analyzing the relationships among the variables in this research. Quantitative method requires the researcher to be detached from the study, and this leads to the notion that quantitative research is free from bias. This method basically gives generalization of the collected data through synthesized interpretation. Qualitative method was also used in this research. In contrast with quantitative, this method is more of verbal information rather than numeric information. The use of qualitative data is advantageous as it provides rich and well- grounded description of the events for new theory construction. Basically, qualitative method allows a holistic view of the research result. A combination of quantitative and qualitative method will help me test and prove the reliability of my research. We have surveyed as a quantitative method and secondary resource analysis for my quantitative method as a form of triangulation.

4-2 Data Collection

After eliminating the inappropriate respondents, finally a total of 208 valid questionnaires were analyzed by using SPSS22. The participants qualified for the sample must be a Taobao live streaming users because the research deals with the factors of product purchase intention on Taobao live streaming. The setting is held online during eleven days of collection. Purposive sampling was done for the sample selection. This sampling is usually done to define the target of a particular group of people. The respondents were found mainly among the female young people.

Table 1 shows the demographic information of the respondents. Respondents were male compare to 16.98% percent of the sample. 83.02 % of the samples were female. 13.94% of respondents were on the age bracket of 10-20. 73.56% of respondents were on the age bracket of 21-30 and 12.5% of respondents were on the age bracket of 31-40. In the 208 respondents, 27.36% were high school students, 62.74% were bachelor degree holders, and 9.91% were master degree holders. All of the respondents were taken by random selection online.

표 1. 응답자의 특성
Table 1. Respondents' Characteristics

	Item	Frequency	Percent
Product Category	Hedonic	101	48.6
	Utilitarian	107	51.4
Gender	Male	16	16.98
	Female	176	83.02
Age	10-20	29	13.94
	21-30	153	73.56
	31-40	26	12.5
Education	High School	58	27.36
	Bachelor Degree	133	62.74
	Master Degree	21	9.91
Total		208	100

Ⅴ. Results

5-1 Data Analysis

In this research, the analysis such as reliability analysis, validity analysis, factor analysis, regression analyses were adapted into data analysis. As mentioned in the previous section, SPSS 22 was used to analyze data for this research. Reliability was also tested to the fact that a scale should consistently reflect the construct it is measuring. Cronbach's alpha indicates the level of inter-item consistency. Commonly, above 0.7 is an acceptable value for Cronbach's alpha. Factor analysis was conducted to ensure the questions asked relate to the construct that is intended to measure. Furthermore, regression analysis was used to prove the significant relationship of each construct.

5-2 Reliability and Validity Analysis

Reliability analysis was examined by Cronbach's alpha values to verify the internal consistency of the items. In all variables, the values of Cronbach's alpha are above 0.90 (Table 2), which are higher than the threshold level of 0.70 suggested by Nunnally. In this research , all the variables' value were over 0.70, so we could consider that all the variables in the model had adequate reliability.

표 2. 변수의 신뢰성 분석
Table 2. Reliability Analysis

Variables	N. of Items	Cronbach's Alpha
IN	4	.941
AQ	4	.965
PP	3	.953
PPI	3	.941
SA	4	.937
ATP	3	.947
H	4	.950
U	4	.939

PP:Perceived Popularity, SA:Source Attractiveness, IN:Interactivity, AQ:Agument Quality, ATP:Attitude Toward Product, PPI:Product Purchase Intention, H:Hedonic, U:Utilitarian

All the constructs and measures must be inferred valid before the test of hypothesis. Multiple items measured each variable. In order to analyze the data validity, here we used the factor analysis to access their unit-dimensionality. Factor analysis is a method of data reduction and requires a large sample size, which is good for this study. Tabachnick advice regarding sample size 50 cases is very poor, 100 is poor, 200 is fair, 300 is good, 500 is very good, and 1000 or more is excellent. In the process of factor analysis, some items (factor loadings are below 0.50) were deleted due to no relation to the construct that we intended to measure. Following Hair et al. factor loadings greater than 0.50 were considered to be very significant. Actually, all of the factor loading of items in the research model were greater than 0.50, with some of them above 0.70. In addition, if the factor loadings are statistically significant, we could consider validity to be

significant. Therefore, we could conclude that all the constructs in this model had adequate validity. The results of factor analysis are as Table 3, Table 4.

표 3. 요인 분석 1
Table 3. Factor Analysis 1

Item	IN	AQ	PP	PPI	SA	ATP
IN4	.770	.241	.238	.299	.318	.111
IN5	.747	.282	.194	.201	.260	.322
IN3	.720	.159	.332	.354	.261	.129
IN6	.691	.451	.164	.181	.241	.249
AQ3	.319	.695	.286	.320	.296	.252
AQ4	.270	.679	.286	.378	.258	.262
AQ2	.330	.671	.296	.353	.322	.223
AQ1	.350	.647	.329	.316	.311	.165
PP3	.260	.198	.815	.224	.254	.121
PP2	.167	.274	.793	.285	.291	.170
PP1	.231	.237	.790	.242	.337	.125
PPI3	.252	.314	.246	.782	.275	.143
PPI2	.285	.268	.300	.752	.109	.278
PPI1	.308	.317	.285	.694	.216	.231
SA5	.292	.236	.287	.183	.794	.119
SA3	.341	.177	.336	.289	.735	.074
SA4	.220	.367	.316	.132	.718	.288
SA2	.285	.272	.452	.155	.544	.380
ATP2	.331	.309	.170	.356	.229	.707
ATP4	.307	.495	.223	.411	.248	.532
ATP3	.299	.467	.300	.411	.237	.520
Eigenvalues	3.567	3.475	3.406	3.228	3.198	1.914
% of Variance	16.985	16.547	16.221	15.372	15.228	9.114
Cummulative %	16.985	33.532	49.753	65.125	80.354	89.468

PP:Perceived Popularity, SA:Source Attractiveness, IN:Interactivity, AQ:Agument Quality, ATP:Attitude Toward Product, PPI:Product Purchase Intention

표 4. 요인 분석 2
Table 4. Factor Analysis 2

Item	H	U
H2	.964	.018
H4	.962	.077
H3	.937	.021
H1	.863	.080
U2	.038	.950
U3	.008	.946
U1	.051	.926
U4	.096	.863
Eigenvalues	3.491	3.4009
% of Variance	43.635	42.607
Cummulative %	43.635	86.241

H:Hedonic, U:Utilitarian

5-3 Correlation Analysis

Correlations is a measure of the relation between two or more variables, and when the absolute value between variables is above 0.9, there might exist multi-collinearity. Table 5 shows the Pearson correlations between variables are below 0.9. So there is no multi-collinearity.

표 5. 상관 관계 분석
Table 5. Correlation Analysis

Item	PP	SA	IN	AQ	ATP	PPI
PP	1					
SA	.778**	1				
IN	.661**	.761**	1			
AQ	.736**	.793**	.803**	1		
ATP	.667**	.736**	.781**	.874**	1	
PPI	.695**	.675**	.740**	.815**	.818**	1

** : p < 0.01

PP:Perceived Popularity, SA:Source Attractiveness, IN:Interactivity, AQ:Agument Quality, ATP:Attitude Toward Product, PPI:Product Purchase Intention

5-4 Regression Analysis

A regression analysis was conducted to test the hypotheses. Two independent variables and 3 media variables were used in this research, while product purchase intention was used as dependent variables. Table 6 shows the results of linear regression analysis. Hypothesis 1,2,3,4,7 were accepted($p<0.05$)

표 6. 회귀 분석
Table 6. Regression Analysis

Hypothesis	Independent Var.	Dependent Var.	Nonstd. Coefficients		Standardized Coefficients	t	Sig.
			Beta	Std. Error	Beta		
H1	PP	SA	.748	.778	.778	17.765	.000
H2	IN	AQ	.771	.040	.803	19.342	.000
H3	SA	ATP	.121	.058	.115	2.097	.037
H4	AQ	ATP	.809	.783	.783	17.765	.000
H7	ATP	PPI	.801	.039	.818	20.374	.000

PP:Perceived Popularity, SA:Source Attractiveness, IN:Interactivity, AQ:Agument Quality, ATP:Attitude Toward Product, PPI:Product Purchase Intention

표 7. 회귀 분석(H3-1, H3-2, H4-1, H4-2)
Table 7. Regression Analysis(H3-1, H3-2, H4-1, H4-2)

	Hedonic			Utilitarian		
Item	Std. B.	t	Sig.	Std. B.	t	Sig.
SA	.183	2.378	.019	.005	.067	.947
AQ	.748	9.737	.000	.821	10.287	.000

SA:Source Attractiveness, AQ:Agument Quality

In the hypothesis 3 and the hypothesis 4, we classify product categories with a higher utilitarian score than hedonic score as utilitarian, and vice versa for the purchased product category basket. Than depart the dates to two parts, the utilitarian part and

the hedonic part, and analyze the dates respectively. In Table 7, hypothesis 3-1, 4-1, 4-2 were accepted, but hypothesis 3-2 was rejected.

No matter if the product is hedonic or utilitarian, argument quality has a positive significant effect on the attitude toward the product. Base on the above reasons, the hypothesis 5, 6 were accepted.

Ⅵ. Conclusion

In this paper, we focus on the live streaming shopping and the Internet celebrity economy; explore how the Internet celebrity economy effect on the live streaming shopping; aim to explain the mysteriously high conversion rate of content on the live streaming site; find out the factors of purchase intention on Taobao live streaming under the impact of the Internet celebrity economy. Consider the characteristics of the Taobao live streaming and the impact of the Internet celebrity economy. We study on factors influencing product purchase intention in Taobao live streaming shopping by adopting the Elaboration Likelihood Model (ELM).

This paper uses the survey method to collect the data and examine the hypotheses. The results are as follows: perceived popularity has positive effect on the source attractiveness, which implies that the levels of source attractiveness depend in part on the perceived popularity of the Taobao live anchor. Interactivity has positive effect on the argument quality, which implies that the levels of argument quality depend in part on the communication quality between the users and the Taobao live anchor. The source attractiveness has a positive effect on the attitude toward the product when the product category is hedonic. Source attractiveness has no significant effect on attitude toward the product when the product category is utilitarian. No matter the product is the hedonic or utilitarian, argument quality has a positive significant effect on attitude toward the product. Source attractiveness has stronger effect on attribute toward product in the condition of hedonic product than in the condition of utilitarian product. And argument quality has stronger effect on attribute toward product in the condition of utilitarian product than in the condition of hedonic product. Finally, attitude toward product has a positive effect on product purchase intention.

Finally, the future development of the Taobao live streaming should not only focus on developing the interactive quality, but also should combine with the Internet celebrity economy. For the Taobao live streaming anchors, they can improve their popularity to increase sales, especially the anchors that sell hedonic products.

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왕조신(Wang Zhaoxing)

2014년 : 중국 산동공상대학교 경영학과(경영학사)
2017년 : 전남대학교 대학원 전자상거래학과(전자상거래석사)

※관심분야 : 인터넷 마케팅, 전자상거래

이상준(Sang-Joon Lee)

1991년 : 전남대학교 전산통계학과(이학사)
1993년 : 전남대학교 대학원 전산통계학과(이학석사)
1999년 : 전남대학교 대학원 전산통계학과(이학박사)

1995년～2005년: 서남대학교 전산정보학과
2005년～2007년: 신경대학교 컴퓨터공학과
2007년～현 재: 전남대학교 경영학부 교수
※관심분야 : 경영정보시스템, 전자상거래, 정보보호, 지식서비스 등

이경락(Kyeong-Rak Lee)

1996년 : 국민대학교 정보관리학과(경영학사)
2009년 : 전남대학교 대학원 전자상거래학과(전자상거래석사)
2013년 : 전남대학교 대학원 경영학과(경영학박사)

1996년～2006년: 기아특수강, 세아정보시스템
2013년～2017년: 전남대학교 공짜21 플러스 e-서비스 사업단 연구교수
2017년～현 재: 전남대학교 경영학부 시간강사
※관심분야 : 경영정보시스템, 전자상거래, 그린IT, 환경경영, 서비스사이언스, 지식서비스 등