

# Research on the Design Changes of Korean Online Shopping Under the Influence of Consumer Motivation——Focusing on Kakao Live Commerce and Naver Live Commerce

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**Abstract.** With the rapid development of modern networks, the consumption patterns of modern consumers are constantly changing. The researchers believe that both the generation of consumption patterns and the changes in the design of online shopping platforms are related to the consumer motivations that consumers also change under the changes in social conditions. Based on consumer motivation and visual design, this study studies the changes in Korean consumers' consumption psychology in a sudden change in the consumption environment, and explores the changes in consumers' consumption patterns based on such changes. By drawing practitioners' attention to the key psychological factors behind the social effect and design effect, it provides a psychological basis for the advancement of future online shopping design and helps designers make designs that are more in line with consumer psychology.

**Keywords:** Consumer motivation, Live commerce, Online shopping design. Kakao live commerce, Naver live commerce

## 1 Introduction

The development of the Internet is completely changing people's way of life. People can use the software programs in their mobile phones for fast and convenient consumption in their daily life. Under the influence of the Covid virus that occurred at the end of 2019, consumers' psychology and consumption patterns have undergone great changes.[1] The whole society in South Korea has begun to maintain social distance, and consumption patterns have also undergone great changes. The turnover of major online consumption platforms is constantly increasing, and a Live Commerce platform with the characteristics of combining online and offline has emerged.

The purpose of this study is to study the transformation of consumers' consumption psychology under the sudden change of consumption environment based on consumer motivation and visual design. Taking kakao shopping live commerce under Kakao, the largest social software in South Korea, and Naver shopping live commerce of Naver, the largest search website in South Korea, as the research objects, this paper analyzes the existing online

shopping design in such consumption forms. Establish a research model through assumptions, then design a questionnaire based on consumer motivation, and use 495 random people as the survey object. Data analysis uses spss analysis and cross analysis to analyze the questionnaire data to verify the scientificity and feasibility of the research model. Based on consumer motivation, this study explains the interaction and positive impact of consumer motivation and modern online consumption forms, as well as the role of design in this.

## 2 Consumer motivation

Consumer motivation is the most direct reason and motivation for consumers to purchase and consume goods. Compared with the needs of consumers, the power of motivation is more obvious, and only requires a psychologically inclined response.[2] Motivation to consume is the immediate driving force preceding behavior. Consumption motives behaviorize the needs of consumers, and people choose specific commodity types and consumption patterns in the direction of motives.[3] The most important motivations are as follows, specifically divided into practical motivation, convenience motivation, health motivation, safety motivation, low price motivation.[4](See Table 1)

**Table 1.** Consumer motivation

<b>Consumer motivation</b>	<b>Definition</b>
Practical motivation	The reason for consumption is to attach importance to the practicality and use value of commodities.
Convenience motivation	Consumption reasons appear in order to reduce physical and psychological expenditures.
Health motivation	The reason for consuming goods is to ensure or maintain the health of the body.
Safety motivation	Consumption for safety, a consumption motive for purchasing goods.
Low price motivation	A consumer motivation for consumers to pursue low prices for commodities.

Consumption motivation is a kind of power, and the design must be aimed at promoting consumers to realize corresponding consumption behaviors.[5] Affected and limited by various factors, not every consumption motivation can realize the corresponding consumption behavior.[6] If the consumption motivation cannot be realized, the consumer must control his own desire, that is, suppress his own consumption motivation. So the ultimate goal of online shopping platform design is to promote consumer behavior.[7]

## 3 Live Commerce

Live Commerce is a compound word of live streaming and e-commerce, and refers to a new online business model that combines buying and selling goods and services through live streaming.[8] The relevant quality factors affecting platform satisfaction are browser-related factors that users first come into contact with when purchasing products through online shopping malls, including convenience of use, website design, processing speed, security related to personal information stability.[9]

## 4 Research composition and analysis

### 4.1 Research model

This research model is composed of five important consumption motivations, see Figure 1. [10]. The researcher believes that the page design of live commerce affects these five consumption motivations through different designs and functions, and promotes consumers' consumption behavior. The model studied showed that the C.R. for each measured variable was significantly greater than 1.96 and was significant at a significance level of  $p < 0.001$ . Therefore, it can be judged to be centrally valid, and this study can verify the hypothesis based on the collected data.

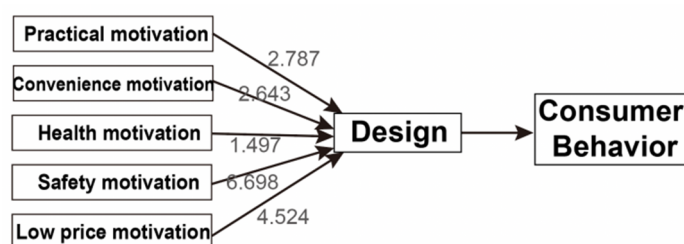


Fig. 1. Research model. (Hypothesis adoption based on C.R value \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ .)

### 4.2 Analysis of research results

In order to test the reliability of the measured variables, Cronbach's  $\alpha$  coefficient was calculated. It is generally believed that when the Cronbach's  $\alpha$  coefficient is greater than 0.6, its reliability is guaranteed, and the Cronbach's  $\alpha$  coefficients of all factors are greater than 0.695, and the reliability is considered to be good. [11] The Cronbach's  $\alpha$  coefficient of this questionnaire is 0.787 and 0.793, indicating that the reliability of the survey results of this questionnaire is good. (See Table 2)

Table 2. Reliability of the Measurement Variable

Variable	Sub-Factor	Number of Questions	Cronbach's $\alpha$
Live page design	Kakao Live	4	0.787
	Naver Live	4	0.793

Next, in order to verify the validity of the four key elements of live commerce page design, factor analysis was carried out. The KMO spectrum is .879, and the verification result of Bartlett's sphericity is also significant ( $p < 0.001$ ), and the factor analysis model is judged to be suitable. The four key elements are: 1 is "real product effect", 2 is "product brand information", 3 is "simple and beautiful page design", 4 is "other functions (purchasing products, viewing product information, real-time live broadcast numbers.)" (See Table 3)

**Table 3.** Validity of research factors

Item	1	2	3	4
Kakao Live	0.668	0.612	0.687	.622
Naver Live	0.691	0.657	0.693	.817
KMO=.879, Bartlett $\chi^2=223.165(p<.001)$				

In the research model, the factors obtained through exploratory factor analysis are proved to be appropriate for the factor variables through confirmatory factor analysis. In order to verify the feasibility of the concept, the fitness is used as an evaluation index, using GFI (above 0.9 is excellent, above 0.8 is good), AGFI (above 0.9), chi-square (the less the better) chi-square p value (above 0.05 is better) ) were measured and the results are as follows.  $\chi^2=1143.19$ ,  $df=198$ , GFI=0.911, AGFI=0.834, CFI=0.917, RMR=0.020, NFI=0.913 Tucker-Lewis index (TLI)=0.920, Parsimonious CFI=0.765, Parsimonious NFI=0.714, RMSEA=0.067. The GFI in the overall fitness index exceeds the standard value of 0.90, the modified GFI value AGFI considering the degree of freedom exceeds the standard value of 0.90, and the CFI value and RMSEA value exceed the standard value. Therefore, considering the overall fit index, the model is acceptable. (See Table 4)

**Table 4.** Research model fit index

Goodness-of-fit index	Evaluation standard	Model fit results
df	Number of available information units after the parameter is estimated	198
Chi square statistic	-	1043.1
p	-	0.000
GFI	>0.9 excellent, >0.8 good	0.911
AGFI	>0.8 excellent, >0.7 good	0.834
RMR	minimum	0.020
NFI	>0.9 excellent, >0.8 good	0.913
TLI	>0.9 excellent, >0.8 good	0.920
CFI	>0.9 excellent, >0.8 good	0.917
IFI	The closer to 1 the better	0.941
Parsimonious CFI	>0.7 excellent, >0.6 good	0.765
Parsimonious NFI	>0.7 excellent, >0.6 good	0.714
RMSEA	<0.1 Adoption, <0.05 optimum	0.067

df, degree of freedom; GFI, goodness of fit index; AGFI, adjusted goodness of fit index; RMR, root mean square residual; NFI, normed fit index; TLI, Tucker-Lewis index; CFI, comparative fit index; IFI, incremental fit index; RMSEA, root mean square error or approximation.

According to the characteristics of live commerce, a cross-analysis was carried out for the page design of the two shopping platforms, combined with the results of the questionnaire survey.(See Table 5) Studies have shown that the higher the quality of a shopping website and the quality of web design, the more consumers want to use the shopping website.[12] However, the results of the study show that the aesthetics of web design has no significant influence on the choice of consumers using the two shopping platforms. ( $p>.05$ ) reflects the practical motivation of consumers.

When it comes to the choice of product brand and quality, research shows that there is no significant impact on the choice of consumers who use the two platforms. ( $p > .05$ ) reflects consumers' utility motivation, health motivation and safety motivation.

The functional part of the page design for both platforms has a significant impact on consumers. ( $p < .05$ ) This is because the page design of Naver shopping live has added more functions that meet the needs of consumers. For example, receiving coupons, which is in line with consumers' practical motives and low-price motives. There are also help functions that fit consumers' convenience and utility motives.

**Table 5.** Result analysis

Variable	Kakao shopping live	Naver shopping live	S.E.	C.R.	$\chi^2$ (p)
Real product effect	58.6%	59.1%	0.012	4.233	6.674 (.246)
Product brand information	60%	68.1%	0.032	0.852	28.21 2 (.104)
Simple and beautiful page design	61.43%	60%	0.029	2.735	17.86 1 (.213)
Other functions	50%	85.5%	0.115	12.893	12.00 0 (.018)

\*  $p < .05$ , S.E., standard error; C.R., critical ratio.

## 5 Conclusions

Based on the above analysis, the researchers concluded that:

Online shopping is to promote the formation of consumers' consumption behavior on the Internet by satisfying consumers' consumption motivation. This is consistent with the model originally established by the researchers. The emergence of Live commerce further satisfies consumers' health and safety motivations.

Through the design analysis and questionnaire survey of kakao shopping live and Naver shopping live live broadcast pages, it is found that the design of the live broadcast page should be as simple as possible, so that consumers can see the effect of the product more realistically, which is in line with the motivation of consumers. design. Consumers like simple design, which can make consumers feel comfortable when shopping. However, the above two points are not the most important reasons for consumers who use the live broadcast platform to shop, and the impact on them is not significant. Naver shopping live with more practical functions is more in line with the actual needs of most consumers and has a more significant impact on consumer choices. Therefore, the researchers suggest that we should pay more attention to the actual needs of consumers when designing. Before designing, we should combine consumer psychology to understand the real consumption motivation and consumption needs of different consumers before designing. This will not only make the design more effective but also enhance the platform. practicality.

And through the above research, it is found that the practical motivation, low-price motivation, convenience motivation and health motivation among the consumer motivations are the four most expressed motivations when consumers conduct consumer behaviors, so it is suggested that brands and designers can focus on Consider these four consumer motivations.

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