

IJACT 23-12-55

Effect of Health and Beauty Store App Service Quality on Customer Satisfaction

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Abstract

We conducted this study to identify the components of H&B store app service quality and their effect on customer satisfaction. The survey was conducted through an online survey for teenagers or older with experience in using H&B store app. A total of 330 copies were distributed and a total of 282 copies were used for the final analysis. The results of this study are summarized as follows: First, eight factors such as ease of use & design, fulfillment, playfulness, responsiveness, personalization, security, contextual usefulness, interactivity were derived as service quality components of H&B store app. Second, as a result of regression analysis, the six service quality components, such as 'ease of use & design', 'fulfillment', 'playfulness', 'responsiveness', 'security', and 'interactivity' were found to have a significant positive (+) effect on customer satisfaction ($p < 0.05$) and 'playfulness ($\beta = .372$)' had the greatest effect on customer satisfaction. Based on the results of this study, we should strive to establish effective marketing strategies in the H&B industry.

Keywords: H&B Store, App Service Quality, Customer Satisfaction, Playfulness, Ease of Use

1. Introduction

The cosmetics distribution market is increasingly expanding due to the diversification of consumer needs and the rapid change in consumption trends. In the world's major beauty and personal care market in 2022, South Korea maintained its 9th place in the world with \$14.5 billion. The domestic cosmetics distribution channel has rapidly expanded from the existing door-to-door and large cosmetics stores to H&B stores and online shopping malls, and the most notable cosmetics purchase channel in recent years is the Korean drug store, the Health & Beauty Store. Representative H&B stores in Korea include CJ Olive Young, Lalavla, Lobs, and BOOTS, and the above companies are in charge of large-scale distribution channels in the domestic cosmetics market.

H&B stores have been running to expand the offline market for the past few years, but offline sales have declined due to the sluggish domestic economy and intensifying competition among the same industry, and the burden of losses has increased due to increased fixed costs such as rent, management costs, and labor costs due to the nature of offline stores. However, as the number of customers purchasing cosmetics through mobile has steadily increased recently, most retailers, including H&B stores, are working to operate and differentiate offline and online platform channels. In particular, a lot of effort is being made to improve the service quality of smartphone mobile apps.

Manuscript received: October 9, 2023 / revised: October 21, 2023 / accepted: November 30, 2023

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However, existing research is based on distribution strategies to activate offline channels, and research on what influencing factors can activate app channels in an online environment is insufficient. Therefore, in this study, we tried to derive the app service quality components of the H&B store and identify how they affect customer satisfaction. Also, based on the results of this study, it was intended to present marketing strategy implications for improving service quality and customer satisfaction of the H&B store online channel app.

2. Theoretical Background

2.1 Mobile service quality

Service quality has been continuously studied in online commerce, starting with offline commerce, and as the scale of mobile transactions has grown rapidly in recent years, interest in mobile service quality is increasing.

Early service quality research was actively conducted around the SERVQUAL model proposed by Parasuraman, Zeithaml and Berry [1]. They viewed service quality in offline commerce in five dimensions: tangible, reliability, responsiveness, certainty, and empathy. Since then, as mobile transactions have become active due to the development of the Internet, Zeithaml [2] revised the above model to present an E-SQ that can measure service quality in online commerce. E-SQ consists of seven dimensions: ease of use, privacy, design, information availability, reliability, compensation, and contactability. Since then, Parasuraman, Zeithaml and Malhotra [3] have developed an E-SERVQUAL model consisting of satisfaction, efficiency, availability, and privacy to define service quality in e-commerce.

According to domestic and international studies, E-SERVQUAL is used interchangeably as information service, e-service, web service, and website service, and includes interactivity with customers as a sign of the degree to which shopping, purchase, and delivery are promoted [4-5]. Shopping on mobile devices includes accessing through websites and downloading mobile apps. When shopping on a website, there is no need to install it separately, but there is a hassle of accessing it every time. In the case of app shopping, it is relatively easy to use the shopping mall except when installing it [6-7]. Most studies on mobile shopping in Korea are used by modifying and supplementing the E-SERVQUAL model or WebQual to measure mobile website and app service quality [8-9].

Wolfenbarger and Gilly [10] classified the online retail quality dimensions, which consisted of eight dimensions: satisfaction/reliability, customer service, personalization, experience/mood, ease of use, information provision, choice, safety/private protection. Lee, La and Song [11] presented a mobile Internet service quality (MOBISQUAL) model, not a website, to suit the mobile Internet environment based on research results such as Wolfenbarger and Gilly [10] and Rust and Oliver [12]. The MOBISQUAL model consists of four dimensions: result quality, fluid interaction quality, contextual interaction quality, and service capability quality under a large classification of service products, service delivery, and service environment. These four dimensions were further divided into nine sub-dimensions, with service capability quality divided into ease of use, design, and safety, fluid interaction quality into ubiquitous connectivity and responsiveness, contextual interaction quality into contextual usefulness, personalization, and result quality divided into satisfaction and playability.

2.2 H&B store app service quality

As the use of mobile web or apps has increased rapidly due to the development of smartphones, research on app service quality has been steadily conducted to promote purchases through apps. However, research on H&B stores has been mainly limited to offline commerce, and little research has been done to evaluate the

service quality of H&B stores so far.

Therefore, in this study, we tried to identify the components of H&B store app service quality, and based on MOBISQUAL to make use of the characteristics of 'app', the following components were defined by modifying and supplementing the measurement items by reflecting the characteristics of the H&B store app.

First of all, the Fulfillment of the H&B Store app is whether it faithfully provides the services that consumers want to consumers who use the H&B Store app service, and the playfulness is how much fun consumers who use the H&B Store app service can use the service. Next, interactivity was included instead of ubiquitous accessibility in MOBISQUAL because ubiquitous accessibility was judged to be an item that evaluated the general characteristics of mobile shopping rather than a service quality component of H&B store apps. Interactivity is about whether the community between the H&B store and the consumer has been activated through the H&B store app.

Responsiveness was viewed as how quickly and in a timely manner responding to customer requirements or inquiries. Contextual usefulness is about whether consumers can perceive H&B Store app service users when interested information is provided at the right time or at the right place, and personalization is about whether H&B Store app services provide customized information and services tailored to consumers' preferences and needs. In addition, the ease of use is how easily the H&B store app service is available, and the design is what the empirical factors and atmosphere felt when receiving the H&B store app service are. Finally, security is the degree to which consumers feel that they are protected by personal information when they need to provide financial information when trading through the H&B Store app.

2.3 Concept of customer satisfaction

The definition of customer satisfaction varies widely. In general, satisfaction is a general psychological phenomenon that refers to an emotional state obtained from an evaluation of an individual's experience linked to an object, behavior, or situation [13]. So the goal of consumer satisfaction is to prepare products and services appropriately according to the purpose customers desire, to provide more customers with opportunities to experience a variety of products and services, and to make them feel more emotional than expected.

Customer satisfaction with e-service quality can be said to be an emotional state according to customer evaluation of the customer's purchase experience of a specific e-commerce [14]. Customer satisfaction in this study is a variable to measure the performance aspect of H&B store app service quality, and it was viewed as satisfaction with the purchase experience through the app.

3. Research Method

3.1 Research design

In this study, we tried to identify the components of H&B store app service quality and their effect on customer satisfaction. In order to achieve the purpose of this research, we presented a research model as shown in Figure 1 based on MOBISQUAL was presented based on the consideration of existing studies.

In the research model, the H&B store app service quality was presented in nine dimensions: "fulfillment, playfulness, interactivity, responsiveness, contextual usefulness, personalization, ease of use, design, and security," and these components were found to affect customer satisfaction. However, ubiquitous accessibility in MOBISQUAL was judged to be an item that evaluates the general characteristics of mobile shopping rather than a service quality component of H&B store apps, and interactivity was included instead. Interactivity was conceptualized as whether the community between the H&B store and the consumer was activated through the H&B store app

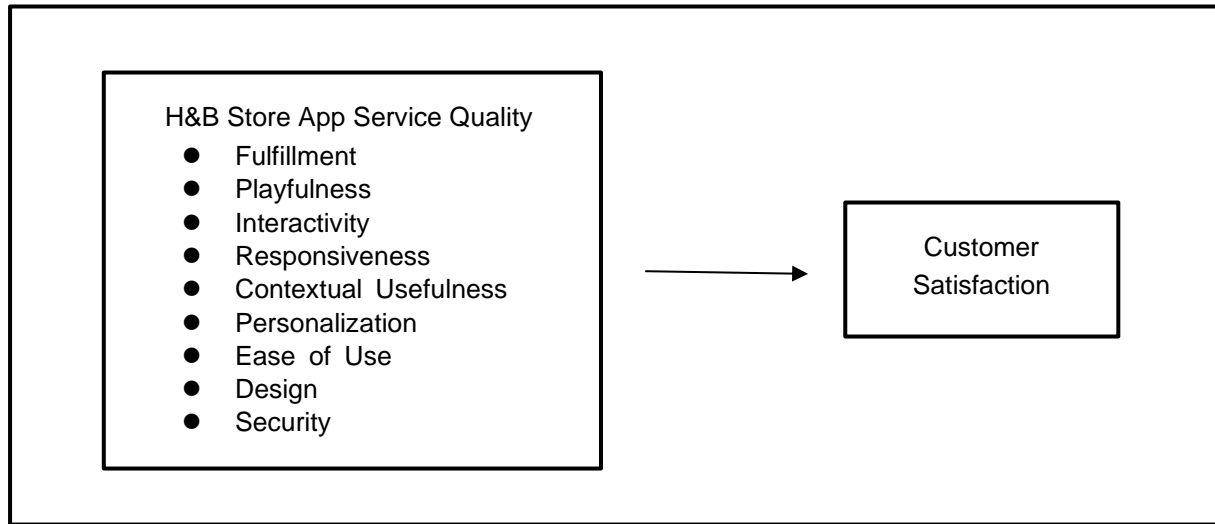


Figure 1. The research model

3.2 Data collection and measurement

The key subjects for this study were teenagers or older in Seoul and Gyeonggi Province with experience in using H&B store app. The survey was conducted through an online survey for three weeks from Feb. 16 to Mar. 8, 2023. A total of 330 copies were distributed and 312 copies were recovered, and a total of 282 copies were used for the final analysis, except for 30 parts not available for analysis. The demographic characteristics of the respondents used in the study are as follows. First of all, female accounted for 59.2% of gender, and 20s accounted for 42.2% of age, followed by those in their 10s with 34.4%. The occupations were followed by college students (34.0%), middle and high school students (21.3%) and housewives (16.3%).

The main variables used in this study are the service quality components of H&B store app and customer satisfaction. Deriving these variables was based on a prior study review and was intended to measure as follows. In order to examine whether the H&B store app service quality affects customer satisfaction, we measured the H&B store app service quality with a total of 30 questions by dividing it into 9 dimensions of ‘fulfillment(5), playfulness(4), interactivity(2), responsiveness(3), contextual usefulness(2), personalization(3), ease of use(4), design(4), and security(3)’ based on the previous research results. In addition, customer satisfaction was measured with 4 questions. The five-point Likert scale was used for all measures.

4. Result and Discussion

4.1 Exploratory factor analysis and reliability test for measuring instruments

A factor analysis was performed for validity verification, but a principal component analysis method was used for factor extraction, and a VERIMAX rotation method was used for factor rotation. The number of extraction factors was selected based on Eigen Value 1. The KMO(Kaiser-Meyer-Olkin) measurement is based on a strict 0.6, the Communality is based on a universal 0.4, and the Factor loading is based on 0.4. Also reliability analysis was conducted to verify the internal consistency of measurement tools and questions. There is no absolute criterion for Cronbach's α value in reliability analysis, but it is generally considered satisfactory if it is 0.6 or higher.

4.1.1 Exploratory factor analysis and reliability test for H&B store app service quality

The results of exploratory factor analysis and reliability test for H&B store app service quality are shown in Table 1. The KMO measurement was 0.862, and the probability was less than 0.05 in Bartlett's sphericity test, so the factor analysis model was judged to be suitable.

Table 1. Reliability and validity of H&B store app service quality

Factors	Variables	Factor loading	Eigen value	Cumulative (%)	Cronbach's alpha
Ease of Use & Design	EUD1	.810	5.468	18.227	.916
	EUD2	.788			
	EUD3	.783			
	EUD4	.772			
	EUD5	.762			
	EUD6	.761			
	EUD7	.749			
	EUD8	.724			
Fulfillment	Ful1	.765	3.218	28.954	.823
	Ful2	.763			
	Ful3	.699			
	Ful4	.668			
	Ful5	.573			
Playfulness	Pla1	.785	2.420	37.021	.782
	Pla2	.695			
	Pla3	.652			
	Pla4	.613			
Responsiveness	Res1	.735	2.174	44.267	.700
	Res2	.733			
	Res3	.687			
Personalization	Per1	.756	2.124	51.346	.736
	Per2	.695			
	Per3	.694			
Security	Sec1	.832	1.967	57.904	.746
	Sec2	.669			
	Sec3	.649			
Contextual Usefulness	CU1	.671	1.789	63.866	.647
	CU2	.530			
Interactivity	Int1	.845	1.542	69.008	.604
	Int2	.714			

According to the results of factor analysis, eight factors were extracted, which showed that the measurement items of the two factors were loaded together on one factor, unlike the research model that proposed ease of

use and design as separate components. This seems to be the result of respondents recognizing and responding to the design aspect of the app as a concept similar to ease of use. The remaining constituent factors were found to constitute the factors as proposed, and the analysis was conducted by viewing the reduced eight factors as the service quality components of H&B store app.

Specifically, factor 1 includes measurement items of usability and design components such as 'product search', 'category search', 'category classification', 'purchase process', 'graphics', 'design', 'visual convenience', and 'visual interest' and was named 'ease of use and design'. Factor 2 was composed of items such as 'reasonable price', 'easy to compare prices', 'enriched information', 'information usefulness', and 'in-depth information', indicating fulfillment. Factor 3 is composed of items such as 'joy', 'exciting', 'interest', and 'exciting', indicating 'playfulness' while factor 4 is composed of items such as 'update', 'immediate response', and 'customer request response', indicating 'responsiveness'. Also factor 5 was composed of items such as 'understanding individual needs', 'customization function', and 'providing customization services', indicating 'personalization' and factor 6 was found to be 'security' consisting of items such as 'transaction safety', 'card information provision', and 'appropriate security'. Factor 7 was found to be 'contextual usefulness' consisting of items such as 'usefulness' and 'purchase effect'. Finally, factor 8 was composed of items such as 'community' and 'exchange between members', indicating 'interactivity'.

The reliability test was conducted to verify the internal consistency reliability of the factors derived from the factor analysis. The results confirmed that the cronbach's alpha of all factors was over 0.604, thus ensuring internal consistency.

4.1.2 Exploratory factor analysis and reliability test for customer satisfaction

The results of exploratory factor analysis and reliability test for customer satisfaction are shown in Table 2. The KMO measurement was 0.711, and the probability was less than 0.05 in Bartlett's sphericity test, so the factor analysis model was judged to be suitable.

According to the results of the factor analysis, four measurement items, 'satisfaction with overall expectations', 'expectation', 'right decision', and 'wise', constituted one factor to indicate 'customer satisfaction'.

The reliability test was conducted to verify the internal consistency reliability of the factors derived from the factor analysis. The results confirmed that the cronbach's alpha of all factors was 0.728, thus ensuring internal consistency.

Table 2. . Reliability and validity of customer satisfaction

Factors	Variables	Factor loading	Eigen value	Cumulative (%)	Cronbach's alpha
Customer Satisfaction	CS1	.803	2.207	55.187	.728
	CS2	.799			
	CS3	.704			
	CS4	.655			

4.2 Effect of H&B store app service quality on customer satisfaction

In order to identify the effect of app service quality on customer satisfaction, a multiple regression analysis was conducted with the eight services quality components (ease of use & design, fulfillment, playfulness,

responsiveness, personalization, security, contextual usefulness, interactivity) of H&B store app derived above as independent variables and customer satisfaction as dependent variables. The results are shown in Table 3.

According to the regression analysis results, the R^2 value is 0.417 and the regression equation accounts for 41.7% of the total variation. In addition, the F value was 26.125 ($p < 0.000$), indicating that the regression model was suitable.

As a result of verifying the significance of the regression coefficients of independent variables on customer satisfaction, 'personalization' and 'contextual usefulness' among the service quality components of H&B store app were not statistically significant ($p > 0.05$). On the other hand, the six components of service quality of the H&B store app, such as 'ease of use & design ($\beta = .332, p = .000$)', 'fulfillment ($\beta = .257, p = .000$)', 'playfulness ($\beta = .372, p = .000$)', 'responsiveness ($\beta = .171, p = .000$)', 'security ($\beta = .253, p = .000$)', and 'interactivity ($\beta = .157, p = .000$)', were found to have a significant positive (+) effect on customer satisfaction.

Looking at the relative influence of the six components that were found to be significant, the 'playfulness' had the greatest effect on customer satisfaction, followed by 'ease of use & design', 'fulfillment', and 'security'.

Table 3. Effect of H&B store app service quality on customer satisfaction

Independent variable	Dependent variable	B	Standard error	Beta	t-value	Sig.stat
	(constant)	1.67E-1	.045		.000	1.000
Customer Satisfaction	Ease of Use & Design	.332	.046	.332	7.285	.000
	Fulfillment	.257	.046	.257	5.651	.000
	Playfulness	.372	.046	.372	8.172	.000
	Responsiveness	.171	.046	.171	3.744	.000
	Personalization	-.008	.046	-.008	-.068	.946
	Security	.253	.046	.253	5.550	.000
	Contextual Usefulness	.035	.046	.035	.760	.448
	Interactivity	.157	.046	.157	3.436	.001
$R^2=0.417, F=26.125, P=0.000$						

5. Conclusion

In this study, we tried to identify the components of H&B store app service quality and their effect on customer satisfaction. The survey was conducted through an online survey for three weeks from Feb. 16 to Mar. 8, 2023 for teenagers or older in Seoul and Gyeonggi Province with experience in using H&B store app. A total of 330 copies were distributed and 312 copies were recovered, and a total of 282 copies were used for the final analysis, except for 30 parts not available for analysis.

Eight factors such as ease of use & design, fulfillment, playfulness, responsiveness, personalization, security, contextual usefulness, interactivity were derived as service quality components of H&B store app and their effect on customer satisfaction was analyzed.

As a result of regression analysis, 'personalization' and 'contextual usefulness' among the service quality components of H&B store app were not statistically significant ($p > 0.05$). On the other hand, the six components, such as 'ease of use & design', 'fulfillment', 'playfulness', 'responsiveness', 'security', and 'interactivity', were found to have a significant positive (+) effect on customer satisfaction. And looking at the

relative influence of the six components that were found to be significant, the ‘playfulness ($\beta=.372$)’ had the greatest effect on customer satisfaction, followed by ‘ease of use & design ($\beta=.332$)’, ‘fulfillment ($\beta=.257$)’, and ‘security ($\beta=.253$)’.

Based on the results of this study, efforts should be made to establish effective marketing strategies in the H&B industry. H&B companies should try to increase customer satisfaction by improving the service quality of store apps. In particular, efforts are needed to improve the playfulness, ease of use & design, fulfillment, and security that consumers give to apps. Finally, we hope that the practical suggestions proposed based on the results of this study will be practically used by H&B companies facing fierce competition..

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